
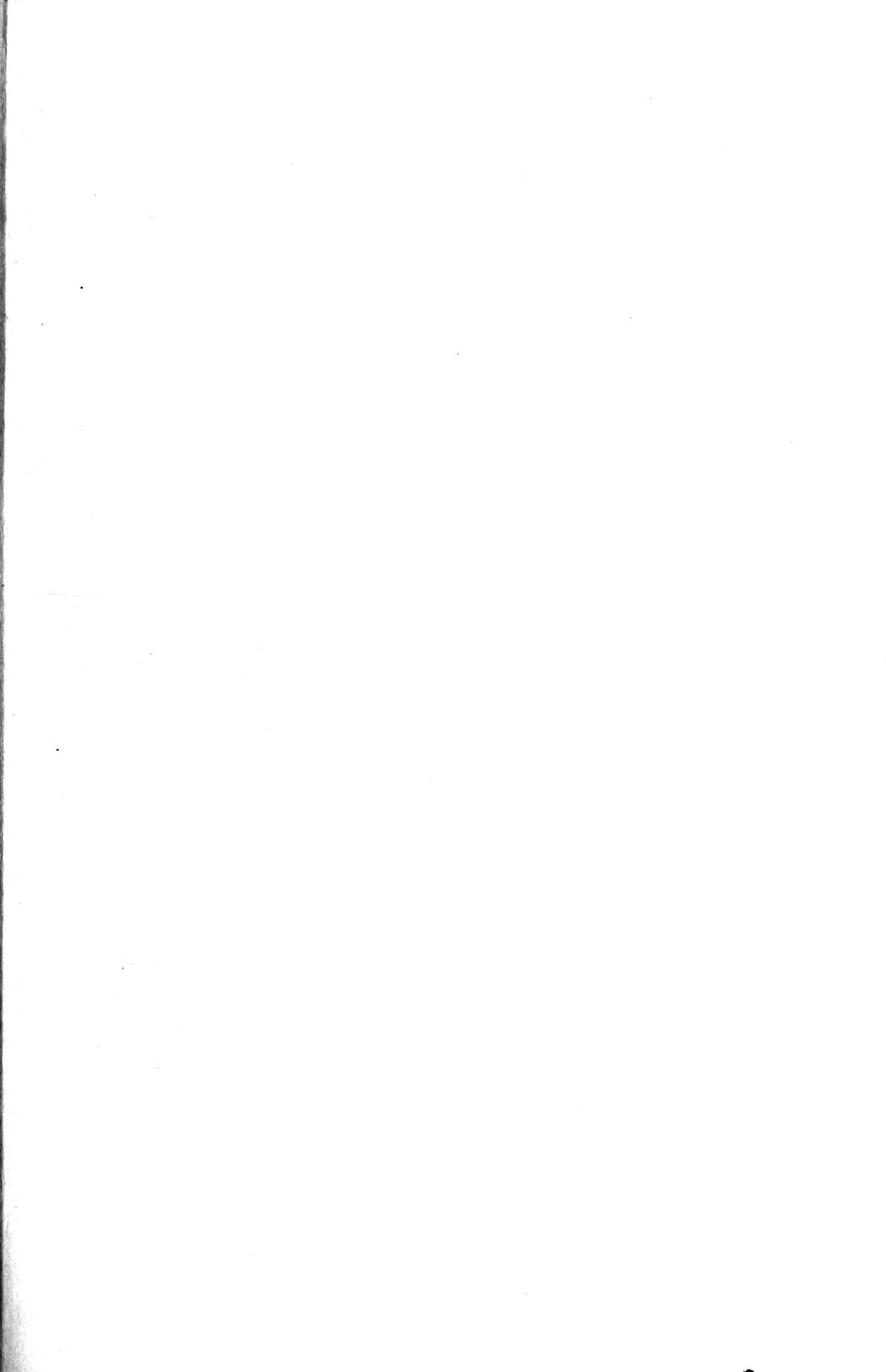
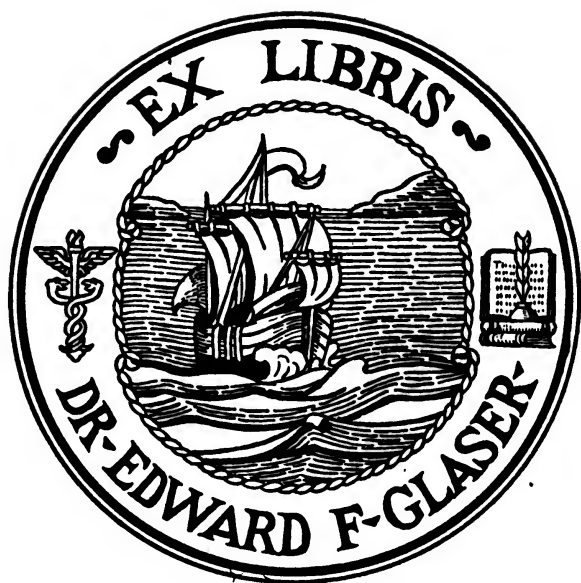


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LIST OF ILLUSTRATIONS.

	Page.
Bone Sequestra in Case of Nasal Syphilis—Thomson	18
Laryngeal Fumigator, with Spirit Lamp—Thomson.....	23
Bilateral Syphilitic Ulceration of the Auricle—Goldstein	38
Perforation of Soft Palate, Syphilitic—Bishop ..	43
Charts for Recording Hearing Tests—Grant	103, 105
An Apparatus for Warming Sprays—Cline.....	120
An Adenoid Forceps—Knight.....	121
Shoe Button, with Incrustations, Removed from Nose—Dufour	149
Relation of Palatine and Buccal Sockets to the Antrum and Nasal Floor— Roughton	161
Method of Measuring Length of Alveolar Perforation—Roughton	162
Perforations of Membrana Tympanum—Cheatle	174, 177
Case of Rupture of Tympanic Membrane from Indirect Violence—Wood- ruff	181
Improved Rhinological Furniture, Patients' and Operators' Chairs— Pynchon	183
Cuspidor Holder—Pynchon	185
Pharynx in Rheumatic and Gouty Affections—Watson Williams.....	208, 209
Topographical Landmarks of Temporal Bone—Clarke.....	234, 235
New Electric Head Lamp—Gleason.....	239
New Currettes and Syringe for Reduction of Turbinal Hypertrophy— Coffin	309, 310
Lipoma of the Tongue—Foster.....	347
New Adenoid Forceps—St. Clair Thomson	371
New Snare for Nose, Throat and Ear Work—Lambert Lack	372
Two New Instruments for Applying Thermal Treatment to the Mucous Membrane of the Nose—Amberg	373

INDEX.

A

Abortive Treatment of Tonsillitis ..	66
Abscess of the Nasal Septum	195
Abscess of the Nasal Septum	64
Abscess of the Neck Consecutive to Suppurative Inflammation of the Middle Ear	141
Abscess of Otic Origin, Cerebral ..	141
Abscess, Peritonsillar	349
Abscess of the Soft Palate, A Case of Recurrent or Chronic	224
A Case of Clonic Spasm of the Pharynx	265
A Case of Eunuchoid Voice	69
A Case of Fatal Hemorrhage following Adenectomy in a Hæmophilic Child	251
A Case of Malignant Disease of the Larynx	263
A Case of Menstrual Ulcer of the Nose	63
A Case of Primary Lupus of the Larynx	52
A Case of Sclerosis of the Tongue, of Influenzal Origin	66
A Case of So-called Recurrent or Chronic Abscess of the Soft Palate, ..	224
A Case of Subglottic Stenosis from Syphilitic Gumma	230
Accessory Tooth in the Nose	66
Acute, Miliary Tuberculosis of the Pharynx	90
Acute Stenosis, Intubation for	318
Acute Suppurative Otitis Media from Swallowing a Pin	73
Adenoids, Curette and Forceps in Operation on	251
Adenoid Forceps, Thomson	371
Adenoid Forceps	121
Adenoids, Technique and Sequelæ of Operation for Naso-Pharyngeal ..	330
Adenoid Vegetations in Deaf Mutes ..	106
Affections of the Pharynx and Larynx Nystagmus, with Remarks on Similar	335
Aid to the Early Diagnosis of Tuberculosis by Injection of Artificial Serum	115
Aix - la - Chapelle Treatment of Syphilis of the Nose and Throat ..	271
A Micro-organism which Behaves Morphologically and Tinctorially as the Tubercle Bacillus	285
A New Electric Head Lamp for Use with the Edison Current	237

A New Snare for Nose, Throat and Ear Work	372
Amberg—New Instruments for Applying Thermal Treatment to the Mucous Membrane of the Nose ..	373
An Anomalous Position of the Internal Carotid Artery	30
Anatomical Points Relating to the Ear, A few Clinical and	178
Aneurism of the Aorta, Perforating the Chest Wall, and left Recurrent Paralysis	244
Antrum, Case of Cholesteatoma of the Mastoid	302
Antrum in a Child aged eight weeks, Empyema of the	24
Antrum in a Child three weeks old, Empyema of the	363
Antrum, Empyema of the Maxillary, ..	342
Antrum of Highmore, Empyema of the	159
Antrum, Suppuration of the	380
Aortic Aneurism, Perforating Chest Wall, and left Recurrent Paralysis ..	244
Apparatus for Warming Sprays in Treating Diseases of the Nose and Throat and Bronchial Tubes	120
A Remarkable Angioneurosis of the Tongue Due to Applications to the Ear	76
Asepsis in Otology and Laryngology, ..	304
Asthma and Insanity	140
Atrophic Rhinitis, Etiology of	156
Atrophic Rhinitis, On the Use of Formaldehyde in	283
Auditory Canal, Cyst of the	119
Auditory Canal, Exostosis of External	268
Auricular Affections in Gout	141
Auricle, Bilateral Syphilitic Ulceration of the	38
Auricle, Elephantiasis of the	182
Auto-Intoxication Resulting from Diseases of the Nose and Throat ..	29

B

Barnhill—Cough Due to Causes Outside the Lungs	97
Basil and Basilateral Diseases of the Faucial Tonsils, with Improved Instruments for Treatment of Same ..	127
Benign Tumors of the Base of Tongue and Some Other Affections of a Benign Character of the Same Region	78

Beaudoux—Foreign Body in the Left Nasal Cavity and Sequelæ.....	282
Bilateral Syphilitic Ulceration of the Auricle.....	38
Bishop—Clinical Tests of New Remedies.....	42
Bishop—Sprays and Inhalents.....	112
Bottome—Congestion at the Base of the Tongue.....	31
Bromide of Ethyl, The Use of.....	230

C

Canal, Exostosis of External Auditory.....	268
Cancer of the Larynx.....	70
Carcinoma, Subglottic.....	264
Carotid Artery, An Anomalous Position of the.....	30
Cartilage of the Tonsil, Sub-pharyngeal.....	262
Case of Cholesteatoma of the Mastoid Antrum.....	302
Case of Chronic Abscess of the Soft Palate.....	224
Case of Empyema of the Maxillary Sinus of a Tubercular Nature—Opening by the Canine Fossa—Cure.....	67
Case of Facial Hemiatrophy, Causing Deformity of the Septum Nasi.....	220
Cases of Nasal Fibromata.....	286
Case of Rupture of Tympanic Membrane from Indirect Violence.....	181
Catarrh of the Upper Air Passages, Inhalation in.....	122
Causes of Otagia, Some Normal.....	230
Cautery Instrument for Turbinotomy.....	260
Cautery, Tonsillotomy and the.....	65
Cerebral Abscess of Otitic Origin.....	141
Chappell—Throat and Nose Affections and their Relation to General Medicine.....	164
Charts of Hearing Power for Various Tones, Rapid Method of Making Graphic.....	102
Cheatle—The Artificial Membrana Tympani.....	173
Chief Indications for Paracentesis of the Drum Membrane.....	73
Chloroform as a Therapeutic Agent in Cases of Invasion of the Nasal Cavity by Texas Screw Worms.....	88
Choanal Tamponage, Treatment of Ozena by.....	146
Cholesteatoma of the Mastoid Antrum, Report of a Case of.....	302
Cholesteatoma of the Middle Ear with Pyæmic Symptoms, Cured by Operation.....	46
Clarke—Facial Paralysis Occurring in the Course of Middle-Ear Disease.....	233
Cline—An Apparatus for Warming Sprays in Treating Diseases of the Nose and Throat and Bronchial Tubes.....	120
Clinical and Pathological Interpretations of Tic.....	138
Clinical Tests of New Remedies.....	42
Coffin—New Curettes and Instruments for Reduction of Hypertrophy of Posterior End of the Inferior Turbinate.....	309
Colds, Treatment of Common.....	158
Cole—A Discovery in the Physiology of the Ear.....	291
Complete Recurrent Paralysis.....	263
Complications of Influenza.....	140
Congestion at the Base of the Tongue.....	31
Conservative Operation for the Removal of Nasal Synechia.....	25
Control of Nasal Hemorrhage.....	340
Coryza, The Abortive Treatment of.....	65
Cough Due to Causes Outside the Lungs.....	97
Crawford—The Control of Nasal Hemorrhage.....	340
Croup, Intubation in Membranous.....	229
Crichton—Nasal Fibromata, with Report of Cases.....	286
Curette and Forceps in the Operation of Adenoids.....	251
Cyst, a Case of Retro-Pharyngeal.....	148
Cyst of the Auditory Canal.....	119
Cyst of the Epiglottis.....	378
Cyst of the Hard Palate and Right Nasal Fossa.....	379

D

Dangers of Thyroidectomy in Exophthalmic Goitre.....	223
Deafness, Hereditary.....	74
Deaf Mutes, Adenoid Vegetations in.....	106
Deafness, New Treatment for.....	74
Deflected Septum.....	125
Deflected Septum, Restoration of a.....	198
Deformities of the Nasal Septum, An Operation for Correcting.....	217
Deformity of the Septum Nasi, Case of Facial Hemiatrophy Causing.....	220
Dengue Epidemic in Houston, Tex., Epistaxis as a Symptomatic Complication During Recent.....	147
Deviated Nasal Septum.....	65
Deviation of the Nasal Septum.....	321
Device for Applying Vaseline to the Nose.....	378
Diagnosis of Perforations of the Tympanum.....	236
Diagnosis and Treatment of Affections of the Frontal Sinuses.....	138
Diagnosis of Tuberculosis, by Injections of Artificial Serum.....	115

Dibble—Chloroform as a Therapeutic Agent in Cases of Invasion of the Nasal Cavity by Texas Screw Worms.....	88	Elephantiasis of the Auricle	182
Diphtheria, Intubation in.....	313	Ellett—A Form of Primary Nasal Diphtheria	341
Diphtheria, Primary Nasal.....	341	Ellett—Determining Cause of the Site of Ulcers on the Nasal Septum	280
Diplococci of Fraenkel and Diplococcemia Consecutive to Tonsillar Angina, Nephritis with	67	Ellett—Note on the Etiology of Atrophic Rhinitis.....	156
Directory of Laryngologist and Otologists, International.....	385	Empyema of the Antrum in a Child Three Weeks Old.....	363
Diseases of the Nose and Throat, Auto-Intoxication Resulting from Diseases of the Nose and Throat and Bronchial Tubes, Apparatus for Warming Sprays in Treatment of.....	120	Empyema of the Antrum in a Child Aged Eight Weeks	24
Diseases of the Respiratory Tract, The Climatic Influence of Our Southwestern States on	55	Empyema of the Antrum of Highmore.....	159
Discovery in the Physiology of the Ear	291	Empyema of the Maxillary Antrum.....	342
Drum Membrane, Chief Indications for Paracentesis of the	73	Enlargement of Turbinated Bodies, New Method for Relief	138
Drum Membrane, Hemorrhage Following Paracentesis of the	298	Enteric Fever, Throat Lesions in.....	140
Duel—An Additional Note on the Treatment of Strictures of the Eustachian Tube by Electrolysis..	116	Epiglottis, A Cyst of the.....	378
Dufour—Foreign Body in Nostril for Three-and-a-Half or Four Years....	149	Epistaxis, Severe	63
E		Epistaxis as a Symptomatic Complication During Recent Dengue Epidemic in Houston, Texas.....	147
Ear, A Discovery in the Physiology of the	291	Epistaxis in Typhoid Fever.....	87
Ear, A Few Clinical and Anatomical Points Relating to the	178	Ethyl Bromide, Use of	230
Ear Cases and their Lesson	305	Etiology of Atrophic Rhinitis.....	156
Ear Complications in Scarlatina	73	Eustachian Tube by Electrolysis, Treatment of Strictures of the.....	116
Ears, Gauze Packing for Suppurating	357	Eustachian Tubes Visible Anteriorly	266
Ear, with Pyæmic Symptoms, Cured by Operation, Cholesteatoma of the Middle.....	46	Eunuchoid Voice, A Case of	69
EDITORIALS:		Ewing—Gauze Packing for Suppurating Ears	357
Announcement	51	Excessive Orbital Cellulitis Following an Operation for Nasal Polypi	378
Asepsis in Office Practice	123	Exophthalmic Goitre, Dangers of Thyroidectomy in	223
Brevity and Simplicity in Medical Writing	186	Exostosis of External Auditory Canal	268
Mastoideocentesis	49	Extensive Mycosis of the Oropharynx, including the Oral and Lingual Tonsil, Presentation of Patient and Exhibition of Microscopic Sections	245
Office Disinfection.....	189	External Auditory Canal, Exostosis,	268
Our Foreign Announcement	47	F	
Our Programme.....	191	Facial Hemiatrophy, Causing Deformity of the Septum Nasi. Report of a Case	220
Testing the Hearing of Telephone Operators	50	Fatal Hemorrhage following Adenectomy in Hæmophilic Child.....	251
Western Ophthalmologic and Otolaryngologic Association.....	311	Facial Paralysis Occurring in the Course of Middle-Ear Disease	233
What is the Best Operation for "Adenoids"	374	Faucial Tonsils, with Improved Instruments for Treatment of Same, Basil and Basilateral Diseases of the.....	127
Electric Head Lamp for Use with the Edison Current	237	Few Clinical and Anatomical Points Relating to the Ear.....	178
Electrolysis, Treatment of Strictures of the Eustachian Tube by.....	116	Fibroma in an Aged Woman, Nasopharyngeal	146
		Fibromata, with Report of Cases, Nasal	286

Fibroma, Case of Subglottic.....	96
Fish Bone, Peculiar Lodgement of.....	363
Forceps, An Adenoid.....	121
Forceps and Curette in the Opera- tion of Adenoids.....	251
Forceps for Naso - Pharyngeal Adenoids.....	371
Foreign Body in the Left Nasal Cavity and Sequelæ.....	282
Foreign Body in Nostril for Three and a Half or Four Years.....	148
Foreign Resolutions of Sympathy on the Death of Dr. Joseph O'Dwyer.....	385
Formaldehyde in Atrophic Rhinitis, On the Use of.....	283
Formative Osteitis.....	265
Form of Primary Nasal Diphtheria.....	341
Foster—Case of Lipoma of the Tongue.....	347
Frontal Sinuses, Diagnosis and Treatment of Affections of.....	138
Frontal Sinus Disease, Radical Operation for.....	259
Frontal Sinusitis.....	64
Furniture, Improved Rhinological.....	183

G

Gauze Packing for Suppurating Ears.....	357
Gelatin as a Hemostatic.....	348
General Medicine, Throat and Nose Affections and their Relation to.....	164
Gleason—The Control of Nasal Hemorrhage.....	143
Gleason—A New Electric Head Lamp for Nose with the Edison Current.....	237
Goitre, Dangers of Thyroidectomy in Exophthalmic.....	223
Goldstein—Bilateral Syphilitic Ul- ceration of the Auricle.....	38
Gomez and Lester—Some Unusual Causes of Otagia.....	231
Gout, Auricular Affections in.....	141
Gouty Affections of the Throat, Re- marks on Rheumatics and.....	207
Grant—Rapid Method of Making Graphic Charts of Hearing Power for Various Tones.....	102
Guaiacol in Laryngeal Tuberculosis, Submucous Injections of.....	228

H

Hæmophilic Child, Case of Fatal Hemorrhage following Adenec- tomy in a.....	251
Hemiatrophy, Causing Deformity of the Septum Nasi, Facial.....	220
Hemorrhage following Adenectomy in a Hæmophilic Child, Fatal.....	251
Hemorrhage following Paracentesis of the Drum Membrane.....	298

Hemorrhage, The Control of Nasal.....	143
Hemorrhage, The Control of.....	340
Hemostatic, Gelatin as a.....	348
Hearing Power for Various Tones, Rapid Method of Making Graphic Charts of.....	102
Hereditary Deafness.....	74
Highmore, Empyema of the An- trum of.....	159
Hoarseness in Singers and Public Speakers, Treatment of.....	381
Holocaine in Oto-Laryngology.....	213
Hydrorrhœa, Nasal — Analysis of Liquid.....	257
Hypertrophy of Posterior End of Inferior Turbinated, New Curettes and Instrument for Reduction.....	309

I

Improved Rhinological Furniture....	183
Inhalation in Catarrh of the Upper Air Passages.....	122
Inhalents and Sprays.....	112
Influenza, Complications of.....	140
Influenzal Origin, A Case of Scle- rosis of the Tongue of.....	66
Injections of Guaiacol in Laryngeal Tuberculosis, Submucous.....	228
Instrument for Reduction of Hyper- trophy of Posterior End of Inferior Turbinated, and New Curettes.....	309
Instruments for Treatment of Same, Basil and Basilateral Diseases of the Faucial Tonsils, with Im- proved.....	127
Internal Carotid Artery, An Anoma- lous Position of the.....	30
International Directory of Laryn- gologists and Otologists.....	385
Instruments for Applying Thermal Treatment to the Mucous Mem- brane of the Nose.....	373
Improvement in Hearing Following Use of Pilocarpine.....	361
Intubation for Acute Stenosis.....	318
Intubation in Diphtheria.....	313
Intubation in Membranous Croup....	229

K

Keiper—Mastoiditis in a Five- months-old Baby—Operation, Re- covery.....	362
Kicer—Three Cases of Acute Mili- ary Tuberculosis of the Pharynx.....	90
Keplinger—An Operation for Cor- recting the Deformities of the Nasal Septum.....	217
King—A Case of So-called Recur- rent or Chronic Abscess of the Soft Palate.....	224
King—Rhinology, Laryngology and Otology in France.....	276
Knight—An Adenoid Forceps.....	121

L

- Lack—Case of Pharyngeal Nystagmus, with Remarks on Similar Affections of the Pharynx and Larynx..... 335
- Lack—A New Snare for Nose, Throat and Ear Work..... 372
- Lamp for Use with the Edison Current, New Electric Head..... 237
- Laryngeal Tuberculosis, Submucous Injections of Guaiacol in..... 228
- Laryngeal Tuberculosis, Treatment of..... 70
- Laryngeal Vertigo..... 167
- Laryngological Society of London..... 61
- Laryngology, Asepsis in Otology and Laryngology, Otology, Rhinology in France..... 276
- Laryngology and Rhinology, The Progress of..... 68
- Laryngological Society of London..... 257
- Laryngological Society of London..... 135
- Larynx, A Case of Primary Lupus of the..... 52
- Larynx, Cancer of the..... 70
- Larynx, Case of Malignant Disease of the..... 263
- Larynx, Needle in the..... 71
- Larynx, Papillomata of..... 263
- Larynx, Pharyngeal Nystagmus and Similar Affections of the..... 335
- Larynx, Removal of Half of the..... 264
- Larvæ in the Nasal Chambers, Use of Oil for the Destruction of..... 86
- Lateral Sinus Complications, Mastoidectomy Involving..... 364
- Ledbetter—Case of Cholesteatoma of the Mastoid Antrum..... 302
- Ledbetter—Intubation in Membranous Croup..... 229
- Leontiasis Ossium..... 265
- Leprosy, Primary Lesion of..... 281
- Lesion of Leprosy, Primary..... 281
- Lester and Gomez—Some Unusual Causes of Otalgia..... 231
- Lieven—The Aix-la-Chapelle Treatment of Syphilis of the Nose and Throat..... 271
- Lipoma of the Tongue..... 347
- Liquid, Analysis of, in Nasal Hydrorrhea..... 257
- Location of Sound..... 72
- Lungs, Cough Due to Causes Outside the..... 97
- Lupus of the Nose Treated by X-Rays..... 89
- M**
- Mastoid Antrum, Report of a Case of Cholesteatoma of the..... 302
- Mastoiditis in a Five-Months-Old Baby—Operation—Recovery..... 362
- Mastoidectomy, Involving Lateral Sinus Complications..... 364
- Maxillary Antrum, Empyema of..... 342
- Maxillary Sinus, Exploratory Puncture and Serous Affection of..... 139
- Maxillary Sinus of a Tubercular Nature, A Case of Empyema of the..... 67
- McKee—Asepsis in Otology and Laryngology..... 304
- McKernon—Report of a Case of Severe Hemorrhage Following Paracentesis of the Drum Membrane..... 298
- Membrana Tympani, Artificial..... 173
- Membranous Croup, Intubation in..... 229
- Meniere's Disease, Quinine Treatment of..... 111
- Meningitis, Case of Nasal Syphilis with Pressure Symptoms Simulating..... 284
- Menstrual Ulcer of the Nose, A Case of..... 63
- Mercury in Treating Syphilis of the Nose and Throat, The Inunction of..... 15
- Middle Ear, Abscess of the Neck Consecutive to Suppurative Inflammation of the..... 141
- Middle-Ear-Disease, Facial Paralysis Occurring in the Course of..... 233
- Mulhall—Laryngeal Vertigo..... 167
- Mullen—Epistaxis as a Symptomatic Complication During Recent Dengue Epidemic in Houston, Texas..... 147
- Muscle Deafness..... 34
- Mycosis of the Oro-Pharynx, Including Oral and Lingual Tonsil..... 245
- Mycosis, Remarks on Pharyngeal..... 221
- N**
- Nasal Cavity by Texas Screw Worms, Chloroform as a Therapeutic Agent in Cases of Invasion of the..... 88
- Nasal Cavity, Foreign Body in the Left, Sequelæ..... 282
- Nasal Chambers, Use of Oil for the Destruction of Larvæ in the..... 86
- Nasal Diphtheria, Primary..... 341
- Nasal Fibromata, with Report of Cases..... 286
- Nasal Fossa, Cyst of Hard Palate and Right..... 379
- Nasal Hemorrhage, The Control of..... 143
- Nasal Hemorrhage, The Control of..... 340
- Nasal Hemorrhage, Analysis of Liquid..... 257
- Nasal Origin of Leprosy..... 241
- Naso-Pharyngeal Adenoid Forceps..... 371
- Naso-Pharyngeal Adenoids, Technique and Sequelæ of Operation for..... 330

Nasal Polypi, Excessive Orbital Cellulitis following Operation for	378
Nasal Septum, Abscess of the	195
Nasal Septum, Abscess of the	64
Nasal Septum, An Operation for Correcting Deformities of the	217
Nasal Septum, Determining Cause of the Site of Ulcers on	280
Nasal Septum, Deviated	65
Nasal Septum, Deviation of the	321
Nasal Synechia, A Conservative Operation for the Removal of	25
Nasal Syphilis, with Pressure Symptoms Simulating Meningitis	284
Naso-Pharyngeal Fibroma in an Aged Woman—Curette—Cure	146
Nasal-Pharyngeal Polypus, with Extra-Cranial Prolongation, without Bony Resection	166
Needle in the Larynx	71
Nephritis with Diplococci of Frænkel and Diplococcemia Consecutive to Tonsillar Angina	67
Neuralgia, Trigeminal, Relieved by Turbinectomy	260
New Currettes and Instrument for Reduction of Hypertrophy of Posterior End of Inferior Turbinate	309
New Method for Relief of Certain Enlargements of the Turbinate Bodies	138
New Remedies, Clinical Tests of	42
New Treatment for Deafness	74
New York Academy of Medicine	52, 125, 192, 245, 313
Nose Affections and Their Relation to General Medicine, Throat and	164
Nose, A Case of Menstrual Ulcer of the	63
Nose, Accessory Tooth in the	66
Nose and Throat, Aix-la-Chapelle Treatment of Syphilis	271
Nose and Throat, Auto-Intoxication Resulting from Diseases of the	29
Nose and Throat, The Inunction of Mercury in Tertiary Syphilis of the	15
Nose, Sarcoma of the	30
Nose and Throat, The Trendelenburg Posture in Operations about the	65
Nose, with Report of a Case of Primary Tuberculosis, Tuberculosis of the	79
Note on the Etiology of Atrophic Rhinitis	156
Note on the Treatment of Strictures of the Eustachian Tube by Electrolysis	116
Nystagmus, with Remarks on Similar Affections of the Pharynx and Larynx	335

O

O'Dwyer—Foreign Resolutions on Death of Dr. Joseph	385
Œsophagus, Two Pressure Pouches of the	257
Oil for the Destruction of Larvæ in the Nasal Chambers	86
Operations About the Nose and Throat, The Trendelenburg Posture in	65
Operation of Adenoids, Curette and Forceps in	251
Operation, Cholesteatoma of the Middle Ear with Pyæmic Symptoms Cured by	46
Operation for Correcting Deformities of the Nasal Septum—Kep-linger	217
Operation for Frontal Sinus Disease, Radical	259
Operation, Mastoiditis in a Five-Months-Old Baby, Recovery	362
Operation for Naso-Pharyngeal Adenoids, Technique and Sequelæ	330
Operation for the Removal of Nasal Synechia, A Conservative	25
Origin of Leprosy, The Nasal	240
Osteitis, Formative	265
Otalgia, Some Unusual Causes of	230
Otitis Media from Swallowing a Pin, Acute Suppurative	73
Otitic Origin, Cerebral Abscess of	141
Otology and Laryngology, Asepsis in	304
Otology, Rhinology and Laryngology in France	276
Otomyasthenia—Muscle Deafness	34
Otorrhœa, Sodium Tetraborate in	180
Outside the Lungs, Cough Due to Causes	97
Ozena Treated by the Serum Method	85
Ozena by Choanal Tamponage, Treatment of	146

P

Packing for Suppurating Ears, Gauze	357
Palate, A Case of Recurrent or Chronic Abscess of the Soft	224
Palate and Right Nasal Fossa, Cyst of the	379
Paracentesis of the Drum Membrane, Chief Indications for	73
Paracentesis of the Drum Membrane, Hemorrhage Following	298
Paralysis, Perforating Aortic Aneurism, Perforating Chest Wall, and Left Recurrent	244
Paralysis Occurring in the Course of Middle Ear Disease, Facial	233
Papillomata of Larynx	263
Paralysis, Complete Recurrent	263
Peculiar Lodgement of a Fish Bone	363

- Peritonsillar Abscess..... 349
- Perforating Chest Wall, Aortic Aneurism, with Left Recurrent, Paralysis..... 244
- Perforation of the Tympanum, Diagnosis of..... 236
- Pharynx, Case of Clonic Spasm of the..... 265
- Pharyngeal Nystagmus, with Remarks on Similar Affection of the Pharynx and Larynx..... 335
- Pharynx, Pharyngeal Nystagmus and Similar Affections of the..... 335
- Pharynx, Three Cases of Acute, Miliary Tuberculosis of the..... 90
- Phosphor-Necrosis of the Temporal Bone..... 107
- Physiology of the Ear, A Discovery in the..... 291
- Pilocarpine in Extreme Deafness..... 361
- Polypus, with Extra-Cranial Prolongation, Naso-Pharyngeal..... 166
- Pratt—A "Wrinkle"..... 122
- Pressure Pouches of the Oesophagus..... 257
- Primary Lesion of Leprosy..... 281
- Primary Lupus of the Larynx, A Case of..... 52
- Primary Nasal Diphtheria..... 341
- Primary Tuberculosis of the Respiratory Tract..... 250
- Primary Tuberculosis, with Report of a Case, Tuberculosis of Nose..... 79
- Progress of Laryngology and Rhinology..... 68
- Puncture of Maxillary Sinus and the Serous Affection of this Cavity, Remarks on Exploratory..... 139
- Pyæmic Symptoms Cured by Operation, Cho'lesteatoma of the Middle Ear with..... 46
- Pyncheon—Improved Rhinological Furniture..... 183
- Q**
- Quinine Treatment of Meniere's Disease..... 111
- R**
- Radical Operation for Frontal Sinus Disease..... 259
- Rapid Extirpation of a Large Naso-Pharyngeal Polypus, with Extra-Cranial Prolongation, without Bony Resection..... 166
- Rapid Method of Making Graphic Charts of Hearing Power for Various Tones..... 102
- Recurrent Paralysis, Complete..... 263
- Relation to General Medicine, Throat and Nose Affections..... 164
- Remarks on Pharyngeal Mycosis—Wright..... 221
- Remarks on Rheumatic and Gouty Affections of the Throat—Williams..... 207
- Removal of Half of the Larynx..... 264
- Respiratory Tract, Primary Tuberculosis of the..... 250
- Respiratory Tract, The Climatic Influence of Our Southwestern States on Diseases of the..... 55
- Restoration of a Deflected Septum..... 198
- Retro-Pharyngeal Cyst..... 148
- Rheumatic and Gouty Affections of the Throat, Remarks on..... 207
- Rhinitis, Etiology of Atrophic..... 156
- Rhinitis, On the Use of Formaldehyde in Atrophic..... 283
- Rhinitis, Primary Diphtheritic..... 148
- Rhinological Furniture, Improved..... 183
- Rhinology, Laryngology and Otolology in France..... 276
- Rhinology, The Progress of Laryngology and..... 68
- Richards—Case of Nasal Syphilis with Pressure Symptoms Simulating Meningitis..... 284
- Richards—On the Use of Formaldehyde in Atrophic Rhinitis..... 283
- Robertson—The Texas Screw Worm, Report of a Fatal Case..... 150
- Roughton—Empyema of the Antrum of Highmore..... 159
- Roy—Peritonsillar Abscess..... 349
- Rumbold—Otomasthenia, Muscle Deafness..... 34
- Rupture of Tympanic Membrane from Indirect Violence, Case of..... 181
- S**
- Sarcoma of the Nose..... 30
- Scarlatina, Ear Complication in..... 73
- Scheppegrell—A Conservative Operation for the Removal of Nasal Synechia..... 25
- Scheppegrell, The Use of Oil for the Destruction of Larvæ in the Nasal Chambers..... 86
- Sclerosis of the Tongue, of Influenzal Origin..... 66
- Screw Worm, Texas, Chloroform as a Therapeutic Agent in Cases of Invasion of the Nasal Cavity..... 88
- Septum, Abscess of the Nasal..... 64, 195
- Septum, An Operation for Correcting Deformities of the Nasal..... 217
- Septum, Determining Cause of the Site of Ulcers on the Nasal..... 280
- Septum, Deviated Nasal..... 65
- Septum, Deviation of the Nasal..... 321
- Septum Nasi, Facial Hemiatrophy Causing Deformity of..... 220
- Septum, The Restoration of a Deflected..... 198
- Sequelæ, Foreign Body in the Left Nasal Cavity and..... 282

Sequelæ of Operation for Naso-Pharyngeal Adenoids, Technique and	330
Serous Affection of Maxillary Sinus and Exploratory Puncture of this Cavity	139
Serum, Aid to the Early Diagnosis of Tuberculosis by Injections of Artificial	115
Serum Method, Ozena Treated by	85
Severe Epistaxis	63
Shaw—A Few Clinical and Anatomical Points Relating to the Ear	178
Sinus Complications, Mastoidectomy, Involving	364
Singers and Public Speakers, Treatment of Hoarseness in	381
Sinus Disease, Radical Operation for Frontal	259
Sinusitis, Frontal	64
Snare for Nose, Throat and Ear Work	372
Sodium Tetraborate in Otorrhœa	180
Sound, Location of	72
Spasm of the Pharynx, Clonic	265
Sprays and Inhalents	112
Sprays, In Treating Diseases of the Nose and Throat and Bronchial Tubes, Apparatus for Warming	120
Stenosis, Intubation for Acute	318
Stillson—Mastoidectomy, Involving Lateral Sinus Complications	364
Stirling—Empyema of the Maxillary Antrum	342
St. Louis Laryngological and Otolological Society	137
Strictures of the Eustachian Tube by Electrolysis, Treatment of	116
Subglottic Carcinoma	264
Subglottic Stenosis from Syphilitic Gumma, Case of	230
Subglottic Fibroma, Case of	96
Submucous Injections of Guaiacol in Laryngeal Tuberculosis	228
Sub-pharyngeal Cartilage of the Tonsil	262
Suppuration of the Antrum	380
Suppurating Ears, Gauze Packing for	357
Suppurative Inflammation of the Middle Ear, Abscess of the Neck Consecutive to	141
Synechia, A Conservative Operation for the Removal of Nasal	25
Syphilis of the Nose and Throat, The Aix-la-Chapelle Treatment of	271
Syphilis of the Nose and Throat, The Inunction of Mercury in Tertiary	15
Syphilis with Pressure Symptoms Simulating Meningitis, Case of Nasal	284
Syphilitic Ulceration of the Auricle, Bilateral	38

T

Taylor—Two Ear Cases and Their Lesson	305
Technique and Sequelæ of Operation for Naso-Pharyngeal Adenoids	330
Temporal Bone, Phosphor-Necrosis of the	107
Tertiary Syphilis of the Nose and Throat, The Inunction of Mercury in	15
Texas Screw Worm—Report of a Fatal Case	150
The Abortive Treatment of Coryza	65
The Artificial Membrana Tympani	173
The Climatic Influence of our South-western States on Diseases of the Respiratory Tract	55
The Control of Nasal Hemorrhage	143
The Determining Cause of the Site of Ulcers on the Nasal Septum	280
The Inunction of Mercury in Tertiary Syphilis of the Nose and Throat	15
The Nasal Origin of Leprosy	241
The Use of Bromide of Ethyl	230
Theisen—Tuberculosis of the Nose, with Report of a Case of Primary Tuberculosis	79
The Trendelenburg Posture in Operations About the Nose and Throat	65
Thompson—An Anomalous Position of the Internal Carotid Artery	30
Thompson—Facial Hemiatrophy, Causing Deformity of the Septum Nasi. Report of a Case	220
Thompson—Forceps for Naso-Pharyngeal Adenoids	371
Throat, Aix-la-Chapelle Treatment of Syphilis of the Nose and	271
Thomson—The Inunction of Mercury in Tertiary Syphilis of the Nose and Throat	15
Throat Lesions in Enteric Fever	140
Throat and Nose Affections and Their Relation to General Medicine	164
Throat, Auto-Intoxication Resulting from Diseases of the Nose and	29
Throat, Remarks on Gouty and Rheumatic Affections of the	207
Throat, The Inunction of Mercury in Tertiary Syphilis of the Nose and	15
The Use of Oil for the Destruction of Larvæ in the Nasal Chamber	86
Thyroidectomy in Exophthalmic Goitre, Dangers of	223
Tic, Clinical and Pathological Interpretations of	138

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ORIGINAL COMMUNICATIONS.

A FEW HINTS ON THE USE OF THE TUNING FORK IN EAR DIAGNOSIS.*

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Inasmuch as intelligent treatment is dependent upon a positive diagnosis in almost all pathological conditions, and as the detriment or benefit from such treatment depends upon the nature and location of the disease, it becomes essential that an accurate knowledge of the nature of the disease, its intensity, and its location be known if possible.

There is probably no part of the body that gives more positive signs of disease, and yet is more difficult of classification as to its character and exact location, than the ear.

Disease of the external ear and auditory canal is apparent enough; yet here, because of an occlusion of the canal by the pathological process, doubt may exist for some days as to how far it extends. It is

*Read before the Colorado State Medical Society, June, 1896.

in differentiating between diseases of the tympanic cavity and the labyrinth that is most confusing; in order that we may establish the diagnosis on subjective symptoms it is necessary to call into use every thing at our command.

Hartmann's set of five tuning forks, consisting of C, C^I, C^{II}, C^{III}, C^{IV}, with the following vibrations to the second for each fork respectively, 128, 256, 512, 1024, and 2048, when used in the following manner give very positive results:

The length of time each fork is heard by each ear when held vibrating close to the meatus, and the length of time each is heard with the handle of the same pressed firmly against the mastoid, affords an accurate estimate of the aerial and bone conduction. This, in my opinion, is the greatest province of the tuning fork.

Rinne's and Weber's tests are both based on the principle of the relative proportion of aerial and bone conduction.

By timing the duration of aerial and bone conduction with a split-second watch, we eliminate the possibility of misleading answers on the part of the patient. For instance, by attempting to note whether aerial or bone conduction is increased, one over the other, it is a common thing for observers to set the fork in vibration and hold it close to the meatus, and the patient instructed to note how loud it sounds; then the fork is again set in vibration, and the handle pressed against the mastoid, and the patient instructed to compare the tones and state which sounds the louder. Here we have to depend entirely upon the patient to give a correct answer, which it is often very hard for him to do if aerial and bone conduction are about the same. Rinne's test is equally liable to error. Weber's test is inaccurate, unless accompanied by other tests: *e. g.*, the fork is set in vibration and the handle pressed against the front teeth, or on the median portion of the frontal or parietal bones, and the patient instructed to note whether the sound is louder in either ear. Suppose he says it is heard more distinctly in the right ear, what does it signify? That he has either a normal ear or a diseased middle ear on the right side, or a disease of the internal ear or a normal ear on the left side. Consequently other tests must be employed to locate the seat of the disease.

By simply timing in seconds the duration of both aerial and bone conduction for each ear, all other tests are embraced, and faulty answers of the patient eliminated.

The following table shows in seconds the time a normal ear should hear the various forks, by bone and aerial conduction. The fork marked C- is Denche's, and has 64 vibrations to the second. The remaining forks are Hartmann's, with the vibrations as before given:

	Air.	Bone.		Air.	Bone.
C —	10	9	C ^{II}	48	15
C	37	15	C ^{III}	30	10
C ^I	32	18	C ^{IV}	22	8

By this series of tests we establish at once whether or not the bone or aerial conduction is out of balance. For example, take the following case with H. D. 1' for a 150" watch.

	Air.	Bone.		Air.	Bone.
C —	0	0	C ^{II}	10	9
C	0	10	C ^{III}	15	10
C ^I	6	11	C ^{IV}	13	6

It is to be seen at once that both aerial and bone conduction are lowered, but that the aerial conduction is more shortened than the bone conduction, showing an involvement of the middle and internal ears.

The following record shows the relation in chronic inflammation of the middle ear. Man aged fifty years. Duration six months.

	Air.	Bone.		Air.	Bone.
C —	7	9	C ^{II}	26	27
C	7	25	C ^{III}	18	16
C ^I	16	20	C ^{IV}	17	13

The next is a case of sclerosis of the middle ear, in a woman thirty-five years of age. The symptoms date back seven years.

	Air.	Bone.		Air.	Bone.
C —	0	11	C ^{II}	12	23
C	0	21	C ^{III}	8	14
C ^I	0	24	C ^{IV}	14	14

It is to be seen in the last two cases, by comparing them with the table of normal aerial and bone conduction, that bone conduction is prolonged over the normal, and that aerial conduction is considerably shortened below the normal; which indicates faulty action on the part of the transmitting mechanism, *i. e.*, that the disease is situated in the middle ears.

The following is a record from the case of a woman, aged fifty-seven years, of disease of the internal ear, with symptoms dating back twenty years:

	Air.	Bone.		Air.	Bone.
C —	0	0	C ^{II}	14	3
C	17	14	C ^{III}	10	0
C ^I	14	8	C ^{IV}	7	0

It will be noticed in this case that both aerial and bone conduction are shortened, but that the bone conduction is much more shortened than the aerial, which indicates a faulty sound-perceiving apparatus, *i. e.*, a disease of the internal ear.

We have learned from post-mortem examinations upon subjects, upon whom careful examinations have been made before death, that the labyrinth shows disease of the lower turns of its cochlea when perception of the higher tones has been altered, and that the upper turns of the cochlea are diseased when the lower tones have been altered. From these facts we can, with the forks and Galton's whistle, locate the seat of the labyrinthian disease with a fair degree of accuracy.

In long-standing disease of the middle ear, changes frequently take place in the lower turns of the cochlea, which is indicated by faulty perception of high tones.

My experience has been that *little can be expected from treatment in chronic inflammation of the middle ear when bone conduction is markedly lowered for the forks Cⁱ, Cⁱⁱ, Cⁱⁱⁱ. A favorable prognosis can usually be given when bone conduction for these forks is notably prolonged.* When the low forks, C⁻, C, and Cⁱ, are only heard for a few seconds by bone and aerial conduction, and the remaining forks are heard longer by air than bone, we are justified in diagnosing a circulatory disturbance of the labyrinth, which almost always first affects the organs of Corti in the beginning turns of the cochlea. It may be either hyperemia or anemia.

The tuning forks cannot be relied upon to make a diagnosis, but rather to assist in making it, together with the symptoms in the case, the appearance of the drum-head, and the condition of the Eustachian tubes. The alteration of the patient's voice I always consider important. In marked middle-ear involvement alone the patient speaks in an unusually low voice, with a nasal twang. In labyrinthian disease the voice is loud and clear. This is due to the increase in bone conduction in the former case, and diminished bone conduction in the latter.

Vertigo is a symptom usually present in acute labyrinthian disease, but is frequently observed in middle-ear disease, from pressure of the stapes in the oval window of the labyrinth, and from the diminished air-pressure in the middle-ear sucking the round window outward, thereby causing a disturbance in the pressure of the endo-lymph and para-lymph, which in turn brings about circulatory disturbances. These attacks of vertigo when due to middle-ear disease are usually translucent, and are largely to be accounted for in the aforesaid manner.

I have benefited a number of cases by appropriate treatment, based upon a careful diagnosis, that I am satisfied would not have been benefited had no pains been taken to discover the nature and location of the disease.

Again, great care in diagnosis renders us capable of separating cases that cannot be benefited from those amenable to treatment. There is no satisfaction in encouraging a patient to undergo treatment, and after two or three months' persistent treatment in discharging him unimproved and much dissatisfied. How much better it would have been to tell him in the beginning, "I cannot help you;" or, "Your case is beyond repair."

By a close study and persistent use of the series of tuning forks of Hartmann's you are sure to be pleased with the ease with which you are able to arrive at an accurate diagnosis and prognosis.

INTUBATION IN THE ADULT, WITH SPECIAL REFERENCE TO ACUTE STENOSIS OF THE LARYNX.*

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Although chronic stenosis of the larynx, especially of the syphilitic and tuberculous types, has received due attention in reference to treatment by intubation in the adult, the management of acute stenosis by the same means has received as yet but little notice.

It does not suffice to assume that the adult may be dealt with exactly like a child, or that the treatment of acute stenosis with its associated state of helplessness and exhaustion is identical with that of chronic stenosis. Important distinctions obtain both as regards the technique of the intubation and the possible scope of the operation.

The six cases related embrace four of laryngeal diphtheria, one of acute œdema of the larynx, and one in which the stenosis was of obscure origin, but probably also œdematous.

The diphtheritic cases all terminated favorably, but presented various difficulties in the performance of the intubation; notably in one, the necessity to intubate with the patient in a recumbent or semi-recumbent posture in bed, to accomplish which the best position was with the patient on the right edge of the bed, and the operator standing to the patient's right, in which location one's right arm rises in front of the patient's mouth, without awkward twisting of the operator's body. In another, at one time, firm spasm of the glottis, which was actually seen in the laryngeal mirror to occur, rendered a third effort necessary before the tube slipped into place. It was done under laryngoscopic view, by holding the tube firmly at the entrance for a few moments, which excited cough and with it the opening of the glottis. All the cases showed some intolerance to the presence of the tube, as manifested by more frequent expulsion than with children. One case nearly succumbed from accumulation of viscid mucus, not in the tube, but in the trachea and larger bronchi below and around the tube; which condition was at once suspended by the extraction of the tube.

*Abstract of a paper read at the last meeting of the American Laryngological Association, June, 1896. Original paper in full in the hands of *New York Med. Journal*, for publication in due time.

The case of acute œdema of the larynx was complicated by chronic spasm of the masseter muscles, which prevented wide distension of the jaws; in consequence, intubation failed, the patient being measurably exhausted by the two efforts made. Tracheotomy was performed, but the patient died just as the operation was completed, presumably from failure of the heart in connection with secondary œdema of the lungs. Immediately post-mortem, the diagnosis was confirmed, and the feasibility of intubation demonstrated in acute œdema of the larynx, with a patient recumbent, possibly collapsed, but uncomplicated by "setting" of the jaws, by (after death) forcibly distending this patient's jaws, when the tube could be passed and repassed with ease.

The liability to pressure decubitus by the tube in acute œdema of the larynx should be remembered, and not too large a tube inserted.

The other case, which was presumably one of œdema of the larynx or of sub-glottic œdema, terminated favorably and without difficulty.

The following conclusions as to technique are formulated:

1. For one accustomed to the use of the laryngoscope, intubation on adults is easier and more certain under its guidance; therefore for a patient of adequate composure and able to maintain the sitting posture this method should be selected.

2. A patient lacking only composure, one whose inclination is to resist rather than to assist the operator, may be closely wrapped in a blanket to pinion the arms and legs, seated in a straight-back chair, the head inclined slightly backward, the mouth gagged, and the finger used as a guide, as with children.

3. A patient lacking strength to move from bed and composure, or strength for laryngoscopic insertion, should be placed close to the right edge of the bed, so that the operator can stand at the patient's right side; the head and shoulders should be well raised by pillows, the neck moderately extended, and the method by the sense of touch otherwise fulfilled. Kneeling on the bed in front of the patient is unnecessary.

4. A patient who is moribund, or nearly so, may have the tube inserted while in a recumbent position. He should be placed on the right edge of the bed, and the operator should therefore stand to the patient's right.

Spraying the fauces with a five per centum solution of cocaine facilitates introduction by whatever method, and tends to lessen the liability to premature expulsion.

The extraction of the tube is especially easy under laryngoscopic illumination; otherwise it is done in accordance with the same

principle as regards the position of the patient as pertains to its introduction.

The author's posture method of feeding subsequent to intubation, by inclining the patient's head and shoulders downward, in which position fluids may be swallowed without gravitating through the tube into the lungs, can be successfully used with adults; but naturally with more difficulty at first than with children, on account of unmanageable weight and size. It is best done by hanging the head and shoulders over the edge of the bed downward nearly to the floor. Otherwise, adults, more readily than children, may be fed upon semi-solids, as custards, stiff corn-starch, and oysters, which will slide over the top of the tube without entering it.

Regarding the scope of intubation for acute stenosis in adults, the four cases of laryngeal diphtheria herewith reported, all of which terminated favorably, justify the conclusion that this operation may with advantage be substituted for tracheotomy in that disease.

Concerning acute œdema of the larynx, one's position is not so clear. The operation is technically feasible in uncomplicated cases, even when exhaustion is extreme and I would consider a single attempt justifiable, provided, in order to guard against pressure decubitus, the smallest size of the adult's set of tubes is first selected.

When complicated by having the jaws "set," or by pharyngeal swellings, which might obstruct the top of the tube, either or both of which conditions may be encountered in cases of acute œdema of the larynx, secondary to peritonsillar abscess, Ludwig's angina, phlegmonous angina, retro-pharyngeal abscess, etc., intubation is absolutely contraindicated, and fruitless efforts thereat can only serve to intensify the exhaustion and suffering of the patient.

There are other acute conditions, or acute exacerbations of chronic states, which might be remedied by intubation. In a case of arthritis deformans which suffered an acute exacerbation involving the larynx, the dyspnoea was so urgent that I expected to be compelled to intubate at any moment for several days.

Traumatic œdema of the larynx, as by scald, corrosion or fracture, might in suitable cases be treated in this way.

Laryngismus stridulus or reflex spasm of the glottis, though rare in adults, might constitute another indication.

Also œdema of the larynx, secondary to chronic syphilis or tuberculosis, might come within the same category, since the œdema may figure as an acute exacerbation provoking sudden and urgent dyspnoea.

The treatment of chronic stenosis of the larynx and trachea by intubation is not included within the scope of this paper.

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THE LITHÆMIC THROAT.

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I wish to say a few words about a throat which we all have seen and treated, but which we may not always fully appreciate. Our patients come to us with the complaint that, although they are not conscious that they have taken cold, yet their throats are sore. Careful inquiry develops the fact that they have been under unusual mental strain during the few days preceding their visit. Or it may be that they have recently attended several dinners and to the postprandial cigar they attribute their condition. Or it will become apparent that their failure in physical and mental vigor has been gradual, but within a few days unusual demands have been made upon them, with the result that prostration has supervened. With all the various symptoms which may be present, total absence of nasal symptoms will be remarked. They tell us that swallowing is painful and difficult; there is a stiffness of the throat, it feels dry and rough. The discomfort, together with the physical prostration, causes them to imagine that they are seized with some serious disease—generally it is diphtheria.

The physical examination reveals practically no general physical signs. The pulse may be slightly accelerated, the temperature a little elevated, but as frequently both are normal. Upon inspection we find generally one or more of the following conditions present:

1. Throat uniformly reddened and of a glazed appearance.
2. The condition formerly known as granular pharyngitis.
3. Some œdema of soft palate and pillars of fauces.
4. Blood vessels of throat dilated and tortuous.
5. A tenaceous, glairy secretion, generally scanty, covering the posterior wall of the pharynx.
6. The tongue coated or reddened with prominent papillæ.

Posterior rhinoscopic investigation shows that the naso-pharynx participates in the diseased condition. The remarkable fact which impresses itself upon the observer is, that the physical signs are insignificant when we consider the discomfort to which the underlying anatomi-

cal conditions give rise. Success in the treatment of these patients can only be obtained when both patient and disease are treated. The general condition can be obviated, but the recurrent local attacks demand attention. Failure awaits the practitioner who considers that his specialty ends with the first tracheal ring. Topical applications give speedy relief, and thus the patient goes on in contentment until the general condition is improved. Locally the naso-pharynx should be cleansed by rather vigorous spraying with a warmed alkaline aqueous solution, constructed after the type of Dobell. The vault of the pharynx should be thoroughly covered by a hot (not warm) vaseline solution, to which a few drops of oil of wintergreen or methyl salicylate have been added. This is best done by a Rumbold No. 4 spray-producer, acting under low pressure—not over ten pounds to the inch, and preferably less. Then clear vaseline, in small quantity, used in the same way is sprayed into the nose through a No. 2. Next through a No. 3 tube the upper posterior wall of the pharynx is treated with the mixture; and finally with aid of Nos. 1 and 6 the operation is completed. The order of use is important; for if No. 3 is used before the way is prepared, gagging and even vomiting may result from irritation of the highly-sensitive throats. Sometimes oil of eucalyptus, in small quantity—just enough to taste—may be used in place of the wintergreen. Usually, however, it is not preferable. Failures chiefly arise from: (1) too great pressure; (2) too cool solutions; (3) adulterated vaseline; and (4) too much of the drug in solution. The comfort derived from this application can only be appreciated by one who has experienced it. In addition, six grains of salophen, or three of sodium salicylate, should be given every hour or two, until the local appearance and symptoms subside. The former, being tasteless, can be given as a powder; the latter is preferable, given well rubbed-up with thirty grains of the pharmacopœial effervescent citrated caffeine in a half-glass of water. At bedtime thirty grains of lithium citrate should be administered in the effervescent magnesium citrate, striving rather to obtain diuresis than purgation. Of the general treatment of the patient, in order that future attacks may be avoided, nothing need be said at this place. My personal views upon the subject of the treatment of lithemia are to be found in the "Transactions of the Medical Society of the State of New York for 1893." To one who is acquainted only with the older methods of relief from this condition, the testimony of the patients will come as a revelation. I ask them for a recognition of the underlying cause of the local conditions and its treatment by protective and lenitive applications.

749 Madison Ave.

THE CLINICAL INVESTIGATION OF EAR DISEASES.

BY J. DUNDAS GRANT, M.D., F.R.C.S., LONDON.

Senior Surgeon Central London Throat and Ear Hospital.

PART III.

GENERAL CONDITION AND SPECIAL EXTRA-AURAL SYMPTOMS.

THE GENERAL CONDITION

of the patient requires careful investigation, the direction of enquiry depending on the particular "aural" symptom chiefly complained of. What the direction in each case should be has been suggested under each heading, but the following indications may be found of some value:

We may have to deal with the

DANGEROUS SEQUELÆ OF ACUTE OR CHRONIC SUPPURATION.

In acute suppurative otitis we have to be on the look-out for symptoms of mastoid disease, meningitis and septicæmia. Intense headache, vomiting, photophobia, high temperature, constipation, delirium, retraction of the neck, are not likely to be overlooked, as indicating meningitis, but the earlier symptoms may be produced by inflammation confined to the tympanum. (In this case incision of the membrane affords an amount of relief which it could not do in meningitis.) The occurrence of oscillations of temperature with rigor, and perhaps diarrhea, would point to septic absorption, and later metastatic suppuration.

Chronic suppurative otitis is a much more frequent cause of danger from cholesteatoma, erosion, and perforation of bone, leading by more or less direct infective extension of disease to subdural abscess, cerebral or cerebellar abscess, meningitis, phlebitis and thrombosis of the lateral sinus, and pyæmia.

Cholesteatoma may be suspected if an otorrhea of old standing is obstinate under treatment, and there is in the syringing water a quantity of white shiny membrane, more than the appearance of the meatus would account for, or occurrence of headache and mastoid pain from time to time.

Erosion of bone may occasionally be felt with the probe, but the more usual situations are in the tegmen tympani and antrum beyond

the reach of justifiable probing. It can hardly be totally absent in any long-standing case of middle-ear suppuration, especially in tuberculous subjects, and is to be particularly suspected if pain is complained of.

The following are the chief symptoms to be sought for:

Headache may be dull and localized in encephalic abscess, but in meningitis it is intense and general.

Temperature, if oscillating, indicates sinus-phlebitis or pyemia; if normal or subnormal, encephalic abscess. In the other conditions it is persistently high.

Pulse and respiration are apt to be slow and regular in abscess, but rapid in all the other complications, their irregularity being notable in meningitis.

Rigors may occur at the commencement of any, but well-marked initial rigors are characteristic of sinus-phlebitis, and, when repeated, of pyemia.

Vomiting occurs early in meningitis, sinus-phlebitis or pyemia; later in cerebral or cerebellar abscess.

The bowels are obstinately confined in meningitis, and generally in encephalic abscess, but in the other conditions diarrhea is not uncommon as the result of septic absorption.

The cerebral condition may be one of early and violent delirium, as in meningitis; or there may be extreme sluggishness culminating in coma, as in encephalic abscess.

Paralysis of particular sets of muscles, or of sight, or hearing, may be present in disease of the corresponding cortical centres, thereby rendering accurate localization of the lesion more practicable.

The ophthalmoscope is of frequent service. Unfortunately, in cerebral abscess its evidence, whether positive or negative, is of little diagnostic value, but along with other symptoms the presence of optic neuritis confirms the diagnosis of a serious degree of mischief. Its occurrence in case of foreign body in the tympanic cavity would call for operative proceedings which without it might be unjustifiable. It is frequent in phlebitis of the sinus, but it is sometimes present in uncomplicated middle-ear suppuration.

IN NON-SUPPURATIVE MIDDLE-EAR

disease tendency to catarrh, gout, rheumatism, anemia, gastro-intestinal or renal disorders, should be observed.

IN NERVE DEAFNESS

evidences of syphilis, gout, lead or other poison must be sought for, the state of the *nervous system*, and particularly of the *cranial nerves*,

especially the fifth, sixth, and seventh, investigated. Associated facial paralysis would suggest implication of the auditory nerve in its cranial course, unless there was suppuration indicating disease of the labyrinth, probably of a tubercular nature. Paralysis of the sixth nerve would similarly suggest a basal meningitis, while if the fifth (sensory) were the nerve coincidentally affected, there would be suspicion of a lesion in the nucleus of the auditory nerve. Paralysis of the palatal muscles and vocal cord of the same side would point to a lesion on the posterior surface of the apex of the petrous bone, affecting simultaneously the spinal accessory and the auditory nerves. Hemiplegia or hemi-anesthesia on the same side, or the opposite side, would point to a lesion of the cerebral hemisphere and pons respectively. The peculiar form of deafness—"word deafness"—in which the patient though able to hear sounds cannot appreciate them, as indicating ideas, or cannot understand words, is characteristic of disease of that portion of the auditory cortical centre situated in the left superior temporo-sphenoidal convolution, and ophthalmoscopic examination would possibly reveal an optic neuritis indicative of encephalic tumor. Disease of the auditory nerve or nuclei is an occasional accompaniment of locomotor ataxy. The possibilities of *hysteria* and of *simulation* must throughout be kept in view. (*Vide* Gower's "Diseases of the Nervous System.")

IN CASES OF DEAF-MUTISM

the degree of deafness to loud noises, vowels, syllables or words should be noted, also whether the deafness is *congenital or acquired* ("whether the patient has ever heard"). It may be elicited that the child could never be wakened by noises. Enquiries should be made as to a history of ear disease, exanthemata, mumps, injury to the head, meningitis, convulsions, etc., further as to whether the child has *had the faculty of speech and lost it*. Again it must be remembered that instances occur of *dumbness without deafness*. *Family history* as to neuroses, consanguinity of parents, is interesting if not important.

The course of investigation described above is a somewhat modified and extended reproduction of that scheduled in the case papers employed at the Central London Throat and Ear Hospital. An endeavor has been made to indicate the diagnostic value of the various signs and symptoms, and it is hoped that this outline may assist those in particular who have not had the opportunity of studying diseases of the ear during the pupillary portion of their career.

CLINICAL REPORTS.

ACUTE SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR; ACUTE SUPPURATIVE MASTOIDITIS; ABSCESS OF THE NECK; OPERATION.*

BY SETH SCOTT BISHOP, M.D., D.C.L., CHICAGO.

Surgeon to the Illinois Charitable Eye and Ear Infirmary; Professor of Otology, Post-Graduate Medical School; Professor of Diseases of the Nose, Throat and Ear, Illinois Medical College, etc.

GENTLEMEN:—This man is a cigarmaker, 46 years old, and of temperate habits. Six weeks ago he was taken with severe pain in his right ear, and when he came to this clinic I found the drum head bulging from intra-tympanic fluid.

Under a 20% solution of cocaine I made an incision in the posterior segment of the membrane, extending from a point directly posterior to the short process of the hammer to the inferior periphery. In order to be effective, the opening should be a free one, for there is a strong tendency to closure in a day or two and before the exudate is entirely removed. The cut was followed at once by a copious flow of a thin, serous, muco-purulent discharge, and the pain ceased.

The nurse syringed the ear with a solution of bichloride of mercury, 1 to 5,000—we inflated with a pressure of 15 pounds by means of the improved middle ear inflator.

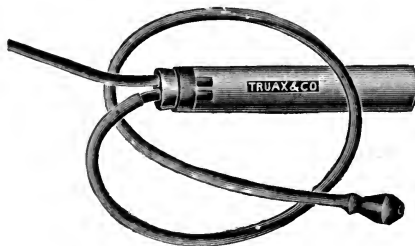


Figure 1. Bishop's Small Powder Blower.

Then the meatus was dried with absorbent cotton, and aristol was insufflated to cover well the drum membrane and canal walls.

*A Clinical Lecture at the Post-Graduate Medical School and Hospital.

The discharge continued for a few days, but at the end of a week the perforation had nearly closed, and there were pain and great tenderness over the apex of the mastoid process and extending nearly to the lower border of the antrum. We enlarged the perforation by an incision extending from the upper to the lower periphery, treated as before, and applied my mastoid ice bag.



Figure 2. Bishop's Aural Ice Bag.

All pain vanished, and in three or four days the patient expressed himself as feeling so much better he would like to return to work.

However, at this time I discovered a slight swelling and infiltration of the sub-aural tissues of the neck. There was considerable tenderness on pressure beneath the tip of the mastoid, extending downwards and forwards three inches along the course of the sterno-mastoid muscle. All other symptoms were so favorable that, had it not been for this ominous sign, the man could have resumed his daily duties.

The presence of the tumor indicated that the pus had broken through the temporal bone, either forward through the anterior wall of the tympanic cavity, or downward through the cortex of the mastoid process, burrowing under the sterno-mastoid muscle. There was no alternative than to open the mastoid process and the neck abscess, liberate the pus and give free access for treatment of the ulcerating surfaces.

Three weeks ago some of you were present when I performed the modified Stacke operation on the mastoid, and opened the cervical abscess. We found the mastoid antrum and cells filled with pus and unhealthy granulations. We curretted the antrum and apex until nothing but healthy bone was left in every direction.

We entered the neck abscess at the lowest point, passing through the sterno-mastoid muscle and curretted the abscess cavity. It was in communication with the mastoid cells of the apex, and a rubber

drainage tube was inserted into the neck opening and passed upward to the mastoid opening beneath the muscle. In order to do as little cutting as possible in the vicinity of the network of veins, arteries and nerves in this region, we dissected cautiously until a small opening was made deep enough to reach the plane of the abscess. Then a strong pair of blunt forceps served to lacerate the tissues to effect a larger opening, by entering the forceps closed, spreading their jaws and slowly withdrawing them.

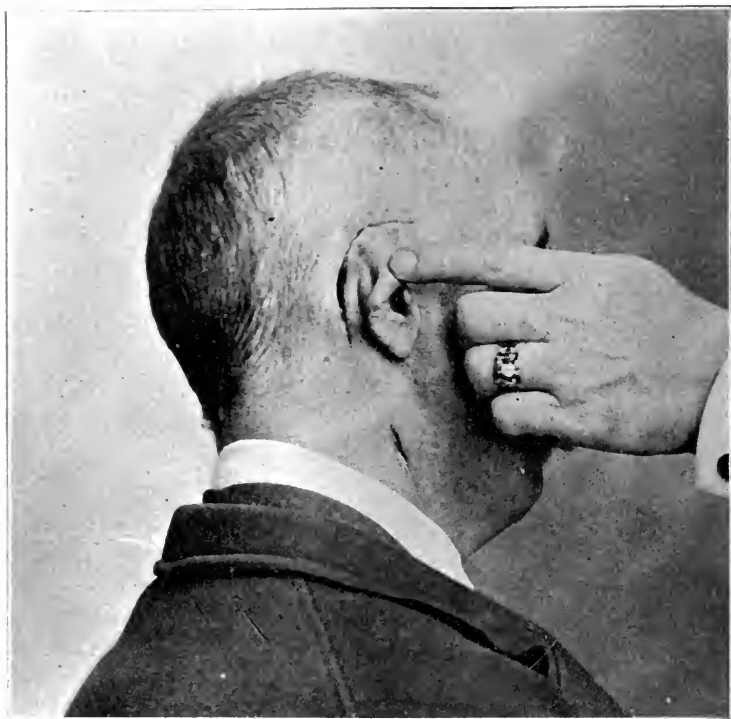


FIGURE 3.

The wound was irrigated with the bichloride solution and insufflated with aristol, and the mastoid wound was treated similarly. The latter was packed very loosely with iodoform gauze, and both were covered with absorbent cotton and the net bandage.

The duration of the operation was 30 minutes. After the mastoid cortex was entered we used what has thus far proved the best artificial illumination for this work: the 60-candle power Welsbach gas burner incased in my light condenser adapted to this purpose. By reflecting

this strong light into the wound with the concave perforated forehead mirror over the eye, no light need enter the operator's eye, and there is an unobstructed brilliant illumination of the whole field of operation.

In three weeks the neck abscess has healed, the wound is closed and the mastoid cavity, which was a large one, has about half-filled with healthy cicatrical tissue. It has closed, except a small aperture,

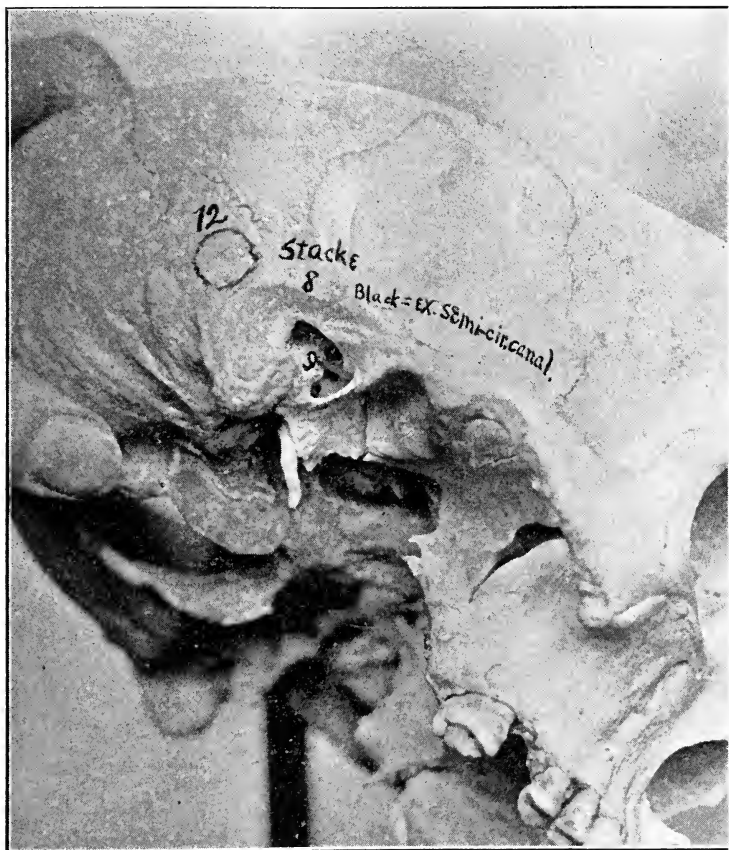


FIGURE 4.

which will be kept open for inspection and treatment until the cavity is filled in to a level with the bone; then the skin wound will be allowed to close entirely in a few days.

The patient left the hospital on the 17th day after the operation and has returned to his customary round of duties.

This case is an instructive one. It illustrates the persistent tendency

of the drum head to heal after paracentesis, and the necessity of making long incisions, and of frequent inflations to keep them open for the exit of pus. It shows that ice will not always avert or abort mastoid involvement, and that it should be applied the moment a mastoiditis develops. It will not stop the formation of pus when the process is far advanced, although it often aborts mastoiditis in its incipiency. We are likely to be deceived in the patient's condition by the relief from active inflammation and pain that follows the application of cold, unless we rely solely upon our own untiring vigilance. When we see that the progress of the disease is only embarrassed by our efforts, but not interrupted in its onward march, surgical interference, prompt and thorough, is the only anchor of hope for both sufferer and surgeon.

It would be unpardonable not to impress upon you the necessity of conscientious preparation for mastoid operations, for they are difficult, delicate and dangerous except to the most practiced hand and eye. Unless properly performed, these operations may damage the facial nerve, the semi-circular canals, the lateral sinus, the dura mater, the labyrinth, etc., and be followed by deplorable consequences.

Before operating on patients, you should familiarize yourselves with all the relations of the important structures surrounding the middle ear and its accessory cavities. Do not think that your teachers neglect this important preparatory precaution. Musicians afford you a worthy example. Previous to performing in public, they rehearse their parts incessantly. It is vastly more important that we should do the same. During the past month I have performed 17 mastoid operations, but five times only on the living person, and twelve times on cadavers.

Columbus Memorial Building.

CONGENITAL FISTULÆ OF THE AURICLE.

BY DUNBAR ROY, M.D., ATLANTA, GA.

Professor of Ophthalmology and Otology in Southern Medical College.

Numerous cases of the so-called congenital fistulæ of the auricle have been reported, more as an anomaly than from any pathological significance. Dench, in his text-book, says that it is of little practical importance, and occurs as a "consequence of arrest in development in either the formation of the auricle itself, or, as Virchow believes, it may represent an incomplete closure of the first visceral cleft." According to Urbantschitsch, Schwabach and Katz, these fistulæ stand in no relationship whatever to the development of the organ of hearing. Such fistulæ may vary as to their position on the auricle, as is seen from the cases reported; and, in like manner, they may be either unilateral or bilateral. According to most observers they are what might be termed "blind external fistulæ;" although Burnett states that in some cases the fistula may lead into the tympanic cavity. According to Politzer, in all of his cases the fistulæ were unilateral, and they all occurred in the left ear. From my own investigation of the subject, observation seems to teach that the opening of the fistulæ is more common in the region of the tragus than at any other point on the auricle.

The openings may be simply rudimentary, or may be distinctly permeable by means of small probes, and in the same patient, when they exist bilaterally, one side may be permeable while the other not, as in the case reported by Dench. When the openings are freely patulous, an exudation of some character may exude from the fistulous tract, and the patient even be unconscious of its presence, unless the opening becomes closed and fluctuating tumors should result, as in the case reported by Urbantschitsch in his text-book. These fistulous tracts are usually superficial, and vary in length. It seems that most observers have never seen any unpleasant symptoms arise from this condition, but in the case to be reported, one must recognize the fact that a systemic dyscrasia may prove an important factor in the prognosis of the already-existing pathological condition.

J. H., male, aged 7, was referred to me by his family physician with the following history:

Ever since the birth of the child the parents had noticed a small pin-head opening on both ears, just at the upper and basal portion of the tragus. Neither opening had ever discharged until about one year ago, when the opening on the right side began to discharge, and in a short time an abscess began to form in the superficial cellular tissue surrounding the fistulous tract, about 1 cm. in front of the tragus. The patient was taken to a specialist, who simply made a vertical incision over the abscess, evacuating its contents, and packing the same with gauze. The abscess then healed, leaving a long, reddish cicatricial scar, and remained healed for several months.

Gradually pus again began to appear at the little opening on the tragus, and soon a distinct abscess again formed, with fluctuation and tenderness. The abscess could be almost entirely emptied through the little opening, showing the communication of the abscess and the fistulous tract. These abscesses continued to form and be emptied until the child was brought to me with an acute fluctuating abscess already formed under and around the old scar. The fistula was thoroughly probed to see if there was any bony necrosis at the bottom of the whole affair. None whatever was found; nor was there any glandular degeneration.

Having emptied the abscess through the fistulous opening, the cavity was thoroughly injected several times with peroxide of hydrogen. This procedure was repeated every day for a week, without any improvement whatever in the condition of the parts. I then resorted to the following plan: With the aid of my assistant the little fellow was chloroformed, and the whole fistulous tract thoroughly opened up into the abscess cavity. These walls, consisting of old scars and flabby tissue, were thoroughly removed, so as to lay open the whole abscess cavity and fistulous tract. The tissues were now thoroughly curetted, and the whole wound left open to heal by granulation. Aristol powder was used, over which iodoform gauze was thoroughly secured. This dressing was removed every day. The wound began to heal nicely, but the granulations were watery and unhealthy-looking. The whole mass of granulated tissue was now thoroughly cauterized with nitrate of silver (60 grs. to 5), and over the whole was smeared a 10-per-cent. ointment of ichthyol in vaseline.

About this time eczema began to develop behind the auricle, due to the dressings and hot weather. This latter, however, steadily yielded to the ichthyol ointment. The granulations and secretion were examined several times for the presence of tubercle bacilli, but with neg-

ative results. The whole granulating surface still looking unhealthy, the patient was placed upon arsenauo, 3 drops increased to 5, three times daily. In three days the parts began to look better, the only local treatment being the ichthyol ointment; and in one month's time, with the exception of a slight scar, the parts were entirely restored, with no vestige of the fistula remaining. The opening still exists on the other auricle, and whether that will in the future be the seat of a similar trouble remains to be seen.

This case teaches us that it cannot always be definitely stated that such congenital fistulæ produce no inconvenience; for where infection can occur by way of these openings, and there exists some blood or lymphatic dyscrasia, the patient is always in danger of some local pathological change.

Grand Opera House.

CORRESPONDENCE.

NEW YORK, August 13th, 1896.

To the LARYNGOSCOPE:

I shall take the privilege to suggest to my friend Dr. G. Melville Black that he should have investigated the various saws on the market more thoroughly before he expressed an opinion that the "Bosworth blade is the only one worth anything on the market."

The Bosworth saw has its teeth set forward, and cuts on the push. The blade bends, and that makes it hang. It then has to be removed, and a new start made, or you run the risk of doing violence to some part posterior to the end of the saw, or the blade may break.

Having had so much trouble with the above saw, a thought occurred to me that if the teeth were set backward, so that the saw would cut only on the pull, it could not bend while cutting, and consequently would not hang. Several years ago I had a saw made upon this plan. I have never had a saw of that make to hang or stop sawing until the sawing was finished, and the time usually is about one minute. As the weight of the body is not required, as though you were sawing a log or plank, only the fore-arm and wrist movement being used, the saw can be as easily pulled as pushed while cutting. I also had a very narrow blade with a straight handle made, which I call my scroll-saw. This saw is very useful where an adhesion is persistent between the turbinated and septum. A piece of bone or cartilage is scrolled out of the septum, just at the point of adhesion, provided the septum is thick enough not to cut through. When the Bosworth saw is applied to the electric motor the danger of bending, hanging and breaking is increased beyond estimation. I consider the electric motor with the above saw extremely dangerous. The back-tooth saw attached to an electric motor with a steady movement would not bend, hang or break, because there would not be resistance to the inward movement of the saw enough to break it. While I believe the motor with the back-tooth saw is practicable, it is not in any case necessary. I have a motor and trephines which have not been used for about six years, since I devised the back-tooth saw. With this saw less violence or traumatism is done than any other way, and always without accidents, together with the very short time required, which does not give the patient an excuse to lose his courage.

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EDITORIAL.

THE SURVIVAL OF THE "FALLEN PALATE."

The present scientific methods of preparing medicines, and the accuracy with which we are enabled to dispense them, are apt to make us forget that, in the not very distant past, the methods were so indefinite and crude that we wonder at some of the results obtained with—or, perhaps, in spite of—such medication.

The masses still adhere to many of their old methods of "healing," but not to the extent that was formerly the case. We can all remember that not so long ago goose-grease rubbed over the forehead, nose and chest was the *sine qua non* remedy for a "cold," and that its

therapeutic value was equalled only by that of French tallow—just exactly why the French preparation was considered to have superior merits in its effect upon the Schneiderian membrane has never been satisfactorily explained.

The older practitioners will recall the fact that “sheep saffron” was considered an effective agent for developing the eruption of the exanthemas, especially in measles, the agent referred to being a decoction of the dung of the sheep. Cow dung was considered a useful, if not savory, poultice, and the human urine was frequently used as a wash in skin diseases. The writer recalls an instance in his hospital experience, in which a negro brought his son, who was suffering from phlyctenular conjunctivitis, for treatment. By questioning, it was elicited that among the various remedies which the parent had tried in this case, was a lotion of his own urine. The frequency of the gonococcal infection of urine would suggest that it would be difficult to find a more dangerous agent to apply to such an absorbing membrane as the conjunctiva.

Mint-tea and catnip-tea, especially the latter, still hold their own among the midwives in all forms of infantile diseases. Rattlesnake oil was extensively used among the negroes for rubbing rheumatic joints, and this was not the only virtue attributed to this ophidian, as its shed skin was supposed to protect its wearer from all the machinations of the evil one.

Many will be pleased to learn that the obnoxious and, in many parts of the South, ubiquitous roach is not without its medicinal qualities. Olive oil, saturated with roaches, is considered in some sections as a valuable remedy for earache, and the blood obtained from a certain beetle by taking off its head, being also supposed to have valuable properties in this direction. Whisky saturated with roaches was considered invaluable in tetanus, and the medicinal value of this remedy could be increased by applying the mashed insects to the injured spot.

It must not be forgotten, on the other hand, that some of our most valued remedies were used empirically by ignorant natives. We are all familiar with the history of the introduction of the cinchona barks into medicine. It is interesting to note that the viburnum, which is now used so extensively in uterine affections, was used nearly a century ago by the negroes of the South under the name of “black haw” for arresting uterine hemorrhages and for correcting menstrual disorders.

The Creoles of Louisiana have used for many years the inner lining of the gizzard of the chicken for digestive ailments, and this preparation has recently gained considerable popularity under the name of “ingluvin.”

While many of the self-limited diseases were treated with the most heroic methods, a number of pathological conditions which deserved the most careful attention were absolutely neglected. To this category belongs the "running ear." The suppuration from this organ was supposed to be the elimination of "bad humor" from the system, and should therefore not be interfered with, and many of our most intractable cases of deafness and most serious mastoid complications owe their origin to this pernicious theory, which was countenanced, if not supported, by many of the physicians of the period.

Green oil appears to be considered a panacea in certain sections for all forms of ear diseases, whether for a boil of the external canal or mastoid disease. Very few patients visiting the clinics of New Orleans, who apply for ear treatment, have escaped a more or less prolonged trial of this agent. Even patients in the higher order of life frequently state that this preparation has been prescribed for them by their family physician. In a recent case in which this was prescribed, the patient was suffering from acute salpingitis.

A malady which seems to have survived the encroachment of civilization and to have clung to the lower classes, is the "fallen palate." In the hospitals of New Orleans, if a patient has any form of throat disease, whether a specific ulceration, a simple tonsilitis or a fatal epithelioma, all that ails him is that his "palate is down," and the patient firmly believes that if you can simply "put it up" his health will be immediately restored.

The treatment of this affection is also interesting. One method is to place pepper and salt into a spoon, and with this "push the palate up," and the patient is much disappointed if the palate does not remain in this corrected position. A more efficacious method, however, is to pull the hair at the crown of the head in order to pull up the palate, and if it does not remain "up" the next proceeding is to tie the hair after the palate has been pulled up. Whenever an old negro enters a southern hospital with a cylindrical bunch of wool projecting like a monolith above his head, it is a pathognomic symptom that his "palate is down."

While many readers will say that the most of these methods are but harmless, still practical experience shows the fallacy of this argument. I have seen cases in which the whole soft palate has been destroyed by a specific process, leaving the patient for life with defective vocal and eating organs, when the disease could have been promptly arrested had the patient not wasted valuable time in treating his "fallen palate." Green oil may be an innocent agent, but when its use consumes the important time which allows an acute inflamma-

tion of the middle ear to change to a chronic suppurative process which endangers the hearing and even the life of the patient, it can hardly be considered a harmless remedial agent.

Those of our profession whose daily practice in the free clinics and among the poor and destitute of our larger cities brings them in contact with the ignorant masses, should not simply smile at their superstition and ignorance, but should point out to these unfortunates the danger of ignorant and even pernicious medication. In this way only can the light of human intelligence spread among the illiterate masses, and in this way only can we eliminate the evils of such practices.

SCHEPPEGRELL.

GOOD WORK AND THE CROWDED WAITING ROOM.

Many conscientious medical men, in full practice, general or special, are confronted with the difficulty of accomplishing a large amount of daily work, and yet performing it thoroughly and faithfully. There is a natural and individual limit both as to the quantity and quality of work a physician can perform in a day. Either he or his patient, or both, must suffer when this limit is passed—the physician in health and capacity for clear thinking and decisive action; the patient in proper care and attention. Particularly is this applicable to an extensive office practice. Competition may be keen, and the wearied doctor, as he admits the next patient to the consulting room, and finds he is confronted with the necessity of taking a patient's history and making an exhaustive examination, may be tempted to slight his work. Could he look forward, in each case, to an adequate compensation for his labor, he could better bear the burden of toil; but the average American citizen has been educated from childhood in the idea that "the doctor can wait," and that he holds a sort of mortgage on his services. Furthermore, the lack of professional *esprit de corps*, in many communities, is continually depreciating the public sense of what a doctor's services are worth, and he who does careful thorough work is allowing his fees to those well able to pay to drop to the level of his careless or incompetent *confrère*.

There is always and everywhere a demand for good work, and they who can and do perform it should see to it that they husband their strength and methodize their labor, but above all that they maintain the high standard of faithful, thorough, conscientious work.

EATON.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

The Influence of Diseases of the Nose and Accessory Cavities on the General Health.

Dr. E. J. Moure (*New Orleans Med. and Surg. Journal*, July, 1896) states that there are two conditions which may have a considerable effect on the general health of the affected subject; these are hypertrophic rhinitis and fetid atrophic coryza. When the hypertrophy is sufficiently well marked, so as to render nasal respiration difficult or perhaps impossible, the patient finds himself exposed to all kinds of bronchial and pulmonary complications.

In regard to fetid atrophic coryza, all practitioners are familiar with the poor and depressed appearance of ozenic patients, which may be explained either by the vitiated air which these patients breathe, or by the fact that they frequently swallow the septic products. There is another complication, however, which is not so well recognized, but which Dr. Moure has frequently met with in this category of diseases. It is the facility with which these patients may become tuberculous. In his opinion, the enlargement of the nasal cavities, and especially the cutanization of the mucous membrane, renders the penetration of the tubercle bacillus more easy into the respiratory passages; especially since, in most cases of ozena, the larynx and trachea are also affected with the morbid process. There seems to be a connection of cause and effect between these two affections, to which it would be well to call the attention of observers.

In diseases of the accessory sinuses, we frequently have gastric and gastro-intestinal disturbances, which may be explained by the constant falling of pus into the throat, whence it is swallowed unconsciously, and this incessant absorption of pus by the digestive passages is not long in creating morbid conditions.

Sinusitis, with abundant and fetid suppuration, constitutes a latent morbid condition, which may take on a dangerous development with the least instigation, and under an influence very trivial in appearance. In these cases there is a centre of microbial culture, which may at any time inoculate itself at some special point, and afterwards develop with great rapidity; especially as the soil is usually well prepared for this culture on account of the former absorption of toxic products, which the system does not always completely eliminate. The suppuration of the maxillary sinus, on account of its abundant and often fetid secretion, appears to affect the general condition most often and easily.

W. S.

Rheumatic Complications of the Nose, Throat, Ear and Eye.

Though the special organs may become the seat of the disease, general rheumatic symptoms may often be entirely absent (Dr. Wm. Cheatham, *Denver Medical Times*, July, 1896). Tonsillitis is nearly always of a rheumatic origin. The larynx may also become involved in the process. Extension from the pharyngeal tissues may reach the ear. Any part of this organ may be attacked. A distinctive feature in diagnosis is the great difference between the slight objective symptoms and the marked subjective signs. Anti-rheumatic medication, with exclusion of other inflammatory affections, readily establishes the diagnosis.

M. D. L.

Diseases of the Accessory and Nasal Cavities.

Dr. J. H. Stucky, (*American Practitioner and News*, June 27, 1896) states that in the management of empyema, or any obstructive disease of the accessory nasal cavities, the first and most important step is making a correct diagnosis. His experience with such cases has led him to the following conclusions:

1. Remove all intra-nasal obstructions before operating upon the sinuses, unless it be in acute suppurative cases.
2. Resection of turbinates is better than the use of the cautery, caustics or scarifications.
3. Establish and maintain free and thorough drainage.
4. Gauze drains are better than metal or rubber tubes.
5. Equal parts of neutral saline and saturated boric acid solutions, with 40 grains of carbolic acid to the pint, make the best solution for patients to use for daily washings.

[In regard to the first observation, to remove all nasal obstructions before operating upon the sinuses, the attention of the profession has been repeatedly called to the danger of intra-nasal operations when the site of the operation may be infected by septic discharges from the

accessory sinuses, Dr. R. Raysor having recently reported a fatal case (*Monatschrift f. Ohrenheilkunde*). The importance of keeping the nose in an aseptic condition under such circumstances is apparent, and as this is impossible while the focus of infection is at hand, the preliminary drainage and disinfection of the diseased accessory cavity is a logical surgical procedure.] W. S.

The Pathology and Treatment of Deviations and Spurs of the Nasal Septum in Young Children.

Dr. E. J. Moure (Paris) states that while the affirmation of Zuckerkandl is true that the nasal septum does not commence to deviate until the age of seven years—that is at the time of the evolution of dentition—still we frequently find deformities of the septum before this age, these cases being due to traumatism (*New Orleans Med. & Surg. Journal*, July, 1896).

In regard to treatment, Dr. Moure warns against operative procedures for correcting deformities of the septum in children below the age of seven or even ten years. At the time of the evolution of the second dentition, the framework of the nose commences to undergo an important change; and to attack surgically the principal support of the nose is likely to expose the patient to subsequent deformities which it may be difficult to remedy. He advocates the use of dilators, straighteners and other instruments of this kind in these cases.

W. S.

Foreign Bodies in the Nose.

Dr. Wm. Milligan reports three illustrative cases (*Clinical Chronicle*, June, 1896).

Case one: a four-year-old boy had suffered from an offensive purulent discharge from the right nostril for six months. There had been several severe nasal hemorrhages. Upon examination, a foreign body was found in the right nostril, and proved to be a shoe-button, which was removed under chloroform with forceps. In the second case, the foreign body, also a shoe-button, was found situated high up in the right nostril. It was readily grasped and extracted. In the third case, the patient had suffered from a discharge of the right nostril for several years. He had also suffered from enlarged tonsils and middle-ear disease. An irregularly-shaped body was seen blocking up the right nostril. This was removed by means of a stout bent hook, and proved to be a rhinolith.

W. S.

Nasal Tuberculoma.

Symptoms of nasal obstruction with epistaxis were present in the right nostril for six months, and subsequent hemorrhage from the left nostril in a male patient, forty-nine years old (Dr. Polyak, *The American Journal of Medical Science*, August, 1896). The right nostril was filled by an irregular tumor resembling granulations, which bled readily. On the left side of the septum, anteriorly, was a tissue partly covered with dried crusts of a dull white color, which also bled easily. The tumor on the right side was removed with the hot snare, and its base was found to occupy a point corresponding with the lesion on the left side. The neoplasm contained many tubercles and very few bacilli. No other tuberculosis of the body was found. Further history is wanting.

M. D. L.

The Tonsillar Cough.

This symptom is explained by Dr. Furet (*Medical Record*, July 25, 1896) by the complex innervation of the gland. The tonsillar plexus, so-named by Andersch, is formed by the blending of the glosso-pharyngeal, the lingual, the spinal, and the vagus nerves. The pillars of the fauces which surround the tonsil are distinctly connected with the muscular tissues of the larynx. This cough is violent, spasmodic, and frequently very painful. No expectoration follows or accompanies it. This is a diagnostic factor.

M. D. L.

Congenital Stenosis of the Nasal Fossæ and of the Naso-Pharynx Simulating the Symptoms of Adenoids.

M. Escat (*The Journal of Laryngology*, July, 1896) relates three cases—the first a man of twenty-two years, the second a child of six, the third a man of fifty-six—all presenting in a marked degree the symptoms and signs of adenoid vegetations. There were no adenoids present, but atresia of the nasal fossæ and naso-pharynx. One finds such patients micro-cephalic, or, more frequently, dolicho-cephalic. Hearing is not so much affected as in cases of adenoids, the deafness being probably central. Mental debility, rather than aprosexia, is present. These cases show that a diagnosis of adenoids must not be made from symptoms alone, but only after careful post-rhinoscopic examination.

W. S.

Vertigo of Naso-Pharyngeal Origin.

Dr. W. Scheppegegrell, in *The Medical News*, May 23, 1896, reports a case of a 24 year-old man, who suffered from well-defined attacks of vertigo, the condition being brought about whenever the patient

attempted to clear his naso-pharynx. On two occasions the patient fell completely unconscious during these paroxysms. The naso-pharyngeal catarrh being corrected, by the removal of a large septal ridge and local treatment, the vertigo disappeared, no recurrence having taken place for eight months.

Descending Optic Neuritis Following Nasal Treatment.

This complication is said to have followed local treatment in a man 38 years old (Dr. A. Alt, *Universal Medical Journal*, July, 1896). The galvano-cautery had been applied for a hypertrophic condition of the mucus membrane. The patient noticed that he could not see as well as usual with the eye upon the same side the cauterization was performed. In ten days the eye became blind.

On examination, there was doubtful perception of light; the pupil was dilated and scarcely reacted. The margins of the optic papilla were almost invisible; the retinal veins were hyperæmic and the arteries thin. Tension was normal.

The nasal treatment was stopped, and injections of strychnine were given. Vision was again restored. A history of syphilis was also present.

M. D. L.

Hereditary Syphilis Simulating Adenoid Vegetations.

M. Garel (*Journal of Laryngology*, July, 1896) reports two cases. The first case had been operated on by a colleague, and eight days later perforation of the palate was found.

The second case was a young girl, with the typical fauces of adenoids. M. Garel refused to operate on account of a serious cardiac lesion. Two months later breaking down of a gumma caused perforation of the palate.

Both these cases rapidly recovered under potassium iodide.

The speaker insisted on the importance of careful diagnosis in such cases, in order to save the patient an operation which, if not dangerous, was at least useless.

W. S.

Empyema of the Frontal Sinus.

Dr. C. P. Ambler reports in the *New York State Medical Reporter*, May, 1896, two cases of empyema of the frontal sinus. In the first case, both the maxillary and the frontal sinuses were involved. The antrum was opened and curetted in the usual manner, and the frontal sinus was opened externally by means of a small dental burr, operated by an electric motor. A plate, a quarter of an inch in diameter, was outlined on the external plate of the sinus, and holes drilled succes-

sively in the outlined circle, and the plate could then be easily removed. The sinus being found full of pus, it was irrigated with hydrogen peroxide, and drainage maintained with fine tents of gauze, and after a month's treatment the wound was allowed to close, and there has since been no pain nor discharge.

In the second case, an old lady of 66 years had a fistulous opening under the left eyebrow, and the whole orbital region was greatly swollen and painful. The greater part of the orbital plate had been ulcerated away, but it was not thought that there was other than superficial necrosis. Operation was not done, as the lady was old, had a very irregular heart, and was greatly reduced. A month later she died of pneumonia.

At the autopsy it was found that the two bony plates of the skull were anteriorly separated by a cavity, extending into both frontal sinuses, and for an inch and a half toward the vertex, the whole frontal region being encroached upon by the pus, and the diploëa having undergone extensive necrosis. Pus was also found in the ethmoid and sphenoid cells, and in the region of the cribriform plate of the ethmoid. Upon opening the thorax, it was found that the patient had undoubtedly died of pneumonia.

W. S.

The Treatment of Adenoid Vegetations.

M. Helme (*The Journal of Laryngology*, July, 1896) states that, in spite of all that has been done since the time of Meyer, the only effective treatment of adenoids is the surgical.

Contra-indications are very few, viz., hemophilia, anomalies in the pharyngeal arteries. The coincidence of an acute tonsillitis, or of scarlatina, measles, etc., necessitates the postponement of the operation.

Properly speaking, there is no recurrence of adenoids. Apparent recurrence is generally due to incomplete operation; true recurrence may occur in syphilitic, tubercular or malignant tumors. As a rule, improvement is immediate and marked, but in strumous cases it may be less so. In these, one should carry out local treatment, consisting of painting the naso-pharynx with resorcin and glycerine; also general treatment (thermal, sea-air, etc.).

Amongst the results of adenoids the worst are deformities of the thorax and vertebral column. Redard obtained good results in such cases by treating them with a sort of respiratory gymnastics, consisting in expanding as much as possible the affected parts, while the normal parts are held fixed. To overcome defects of speech, rational and methodical respiratory movements, voice culture, singing, declamation, etc., are to be used.

Lastly there are the tubercular adenoids. Of these there are two types: (1) bacillary adenoids (Lermoyez), *i. e.*, where the bacilli are found inside the tissues—very rare, only one to seventy-five cases; (2) bacilliferous adenoids, *i. e.*, where the bacilli are found on the surface of the growths (Diculafoy)—one to five cases.

Although these growths tend to shrink with advancing years, they must not be left untreated; for while disappearing themselves, they leave indelible traces behind.

W. S.

Soziodole in Nasal and Naso-Pharyngeal Affections.

This remedy is said to be of considerable value in diseases affecting these parts (Steter, *Am. Med. and Surg. Bull.*, June, 1896). It is employed as the soziodole-zinc, and soziodole-potassium. In hypertrophic rhinitis the zinc combination with talcum (10 per cent) is said to effect a cure in almost every case. In short time the congested and swollen mucous membrane was much reduced and assumed a healthy color.

In acute coryza insufflations, the potassium preparation in combination with talcum (1-10) applied every two hours checks the secretions. It beneficially influences the fetor of ozena, and acts agreeably in chronic naso-pharyngeal catarrhs, and in acute and chronic laryngitis. In the latter affections a solution of the zinc combination (two per cent.) is employed.

M. D. L.

Treatment of Antrum Disease.

Dr. John E. Bacon describes his method of operation (*The American Therapist, The Journal of the American Medical Association*, July, 1896.)

It consists in cleansing and medicating the cavity, through a small puncture in its inner wall in the inferior meatus of the nose, which can be made without general anesthesia and without pain. The instruments are a steel trocar and canula, two silver tubes, a silver wash tube, and a hard rubber syringe, with rubber tube connections, made to fit the canula and wash tubes.

Cleanse the nares with the antiseptic spray, cocaine the inferior turbinal and floor on the side to be operated upon, insert a rubber operating speculum well into the nostril, and place the trocar beneath the inferior turbinal, about one and one-fourth inches from the skin margin; by bending the septum to the opposite side, the point of the trocar will point obliquely into the cavity of the antrum. A slight tap with a leaden or rawhide mallet will cause the trocar to penetrate the thin bone which constitutes the inner wall of the cavity. Care

must be taken not to penetrate too deeply and so wound the opposite side of the antrum, as serious hemorrhage might result. In most cases the trocar can be pushed through the thin bony wall with fingers alone, and this should be done when possible, to avoid the mental shock which the blow with the mallet sometimes gives. The trocar may now be withdrawn, leaving the canula in place, and the rubber tube may be attached to the canula, and the cavity syringed out with warm sterilized normal salt solution. The fluid will escape into the nose through the ostium maxillare, and bring with it pus if any be present. After the cleansing the trocar may be replaced and the nut removed, when the canula may be withdrawn over the trocar; now a silver tube is slipped over the trocar and the latter is withdrawn, leaving the silver tube in place, and this may remain as long as required without any irritation. This tube is exactly fitted by the silver wash tube, and the cleansing may be repeated without inconvenience. A solution of menthol and camphor in liquid albolene may be easily sprayed through the tube, and aristol or other non-irritant powder may be blown into the antrum by the same means. It is imperative to thoroughly sterilize all instruments used, and to use only warm sterilized fluid in each case, to prevent infection.

W. S.

The Correction of Saddle-Nose by the Formation of a Bridge from the Chondro-Osseous Lateral Wall of the Nose.

Professor Czerny (Heidelberg) states that in two cases of saddle-nose of a mild degree, he split the skin down the middle line from the glabella nearly to the tip of the nose, and turned the flaps to either side (*Verhandlungen der deutschen Gesellschaft für Chirurgie*, xxiv. Kongress, 1895; *Annals of Surgery*, July, 1896). Then a half elliptical flap was formed on either side of the roof of the nose, involving the entire thickness and including the triangular cartilage and the nasal bone, the base of each flap lying in the middle line of the nose. The cartilaginous portion is cut through with a strong knife and the bony portion of the lateral wall is divided with a fine chisel, and the two flaps, which are covered on one side with mucous membrane and on the other with periosteum, are turned up towards the median line so that their periosteal surfaces come together.

The nourishment of these flaps takes place through the septum, and their free borders are united by a running suture of catgut. The turning up of the two flaps is not easily done, and the operation can be facilitated by the use of T-shaped forceps. The skin is then sutured over this elevated septum nasi by a running suture of silk thread; the base of the flap was divided. During the last two nights

of the strained position morphine injections were necessary, because of the pain due to the position. The flap healed completely without any necrosis. The formation of a septum and nasal orifices was in time accomplished. For a long time the new portion of the nose was sharply defined from the nasal stump by the very anæmic appearance of the former. This peculiarity gradually became less marked.

The results in these cases were good, and the scars scarcely perceptible.

The method is applicable only to saddle-nose of a mild grade, and without marked retraction of the tip of the nose. The bony and cartilaginous wall must be intact, and the septum unperforated, because it must support and nourish the new flaps.

W. S.

Chancres found in Unusual Locations.

Dr. E. Harrison Griffin (*N. Y. Med. Journal*, May 23, 1896) writes:

During a period of three and a half years I have been able to collect twenty additional cases to those previously reported. He states that such manifestations are not at all rare, but in many instances the initial lesion is frequently overlooked. The chancre itself gives very little pain, even if it is situated on the tonsil or tongue. It is the bubo that brings the patient to the physician. Infection of the neighboring lymphatics brings discomfort and causes the individual to seek relief. Generally it is the mucous patch which spreads the disease, though the author mentions a case of three children who were directly inoculated from the chancre virus. Here the first child took the disease by drinking from a tin pail that had some syphilitic poison on its edges. His brother was infected (chancre of the tonsil) "by sucking a stick of candy after his diseased brother had bitten it." The sister received the initial lesion on the lip by kissing.

He further mentions a number of cases of chancre of the lip, the result of kissing, and using infected articles, and also records two cases of chancre of the tonsil in young women, the result of having had intercourse in an unnatural manner. In another patient, a married woman, twenty-nine years of age, the chancre was found at the base of the tongue—an unusual site. The inoculation had evidently taken place through a break in the continuity of the lingual tissues, but the mode of infection was not clear.

Another case observed was that of a nursing woman, who was inoculated by suckling a strange infant suffering from hereditary syphilis. Two cases of chancre of the anus are detailed. In both instances, buboes of the inguinal region were present. Both patients were children. The one was a female, two years old, who was infected by soiled

clothes which had been worn by the grandfather, seventy years of age, who was suffering from a primary sore on the penis. The clothes were employed to cleanse the child. In the other case, sodomy was practiced on an Italian boy, aged ten years.

The paper is one of great practical importance, and the author makes an earnest and worthy plea for a radical measure which will limit the spread of this devastating disease. M. D. L.

Adenoids and Aphasia.

Dr. John A. Thompson (*Cincinnati Lancet-Clinic*, July 11, 1896) reports a case of a 13-year-old boy suffering from headaches and aphasia of several weeks' duration, both of which symptoms disappeared after the removal of the hypertrophied faucial and pharyngeal tonsils.

The author believes that the symptoms were due to ataxic aphasia, caused by the intense cerebral congestion set up by the adenoids.

W. S.

Epileptiform Crises and Hypertrophy of the Tonsils.

M. M. Boulay (*The Journal of Laryngology*, July, 1896), states that among the numerous nervous affections, local or remote (cough, glottic spasm, headache, etc.), which may accompany the various lesions of the nose and pharynx, particularly hypertrophy of the pharyngeal tonsil, the rarest are the convulsive phenomena. The following case is a typical example of epileptiform crises accompanying large tonsils. The patient was a boy, twelve years old, who had suffered for two years from nocturnal crises, with the following characteristics: sudden awakening with anxiety, tingling of tongue, loss of consciousness, and convulsions of tongue, lips, face, and often of the four limbs, with embarrassed respiration and threatened asphyxia, the whole attack lasting five to ten minutes. The child had immense tonsils and adenoids. From the day on which the tonsils were removed the attacks ceased and never returned; the adenoids were removed later.

W. S.

Position of Child Patient in Removing Adenoids of Naso-Pharynx.

Dr. S. G. Dabney, in *Pediatrics*, says the child should be seated on the lap of an assistant, with its arms held down by pinning a towel around the body; its legs are held between the assistant's knees, and a second assistant, standing back of both the child and the first assistant, steadies the patient's head. The palate is now brought forward by

the retractor, which is held with the left hand; the larger portion of the adenoids is cut off with the forceps, and then with the curette the naso-pharynx is thoroughly scraped to remove all remaining portions of the growth.

Etiology of Nasal Obstruction.

Mayo Collier (*Jour. Laryngol.*): From examination of a large number of skulls and the compilation of statistics, the author concludes that obstruction is seldom or never congenital, rare below ten years, and more common after puberty; that nine out of every ten civilized persons have some irregularity or abnormality in the nose, and that four out of every five savages, aborigines, or uncivilized beings have normal nasal cavities.

We must admit, in the development of the condition called chronic nasal obstruction, an intermediate stage—that of temporary obstruction, which may come from colds or injuries, and which results directly from the abeyance of the power of the dilatores nasi to keep the valve (*i. e.*, the flexible cartilages at the ostium nasi) open on one side or both. If one nostril is blocked—by paralysis or paresis of the nasæ-dilator muscles, injuries, inflammation of cartilages, enlarged inferior turbinated bone, polypi, catarrh, etc.—the result varies according as the patient is awake or asleep. If awake he can co-ordinate so far that by depressing the tongue in the floor of the mouth, and raising the soft palate, air can enter and equilibrate that in the lungs during inspiration, but not that in the closed nasal fossa. The rush of air passing under the naso-pharynx, and to some extent through the naso-pharynx and through the open or partially open nasal cavity, will lessen the tension of and exhaust the air in the closed nasal cavity. This is but the physical principle of an ordinary nasal spray.

Hence, regarding the nares as boxes with sides (one of which, the septum, is more or less flexible), if one nostril be blocked up the air therein is rarefied by the inspiratory act, and the sides of the box are subjected to an increased pressure exactly in proportion to the amount of rarefaction. The average area of the septum can be taken as nine square inches, and from experiments with mercury manometer-tubes it can be shown that a force of four and one-half pounds may be exerting itself at every inspiration, not only on the thin septum, but on every side of the nasal fossa. On the face—hence the pinched and approximated upper maxillary bones in cases of long-standing nasal obstruction; on the palate—hence the high-arched palate and irregular dental arch with crowded teeth; on the soft palate—hence the lessened pharyngeal and post-nasal space and the tendency to breathe entirely through the mouth, and many other attendant consequences.

During sleep more damage is done than during consciousness. Oral respiration is effected by powerful inspiratory efforts, lifting the soft palate every time, so increasing the rapidity of the naso-pharynx by diminishing the width of the stream and consequently increasing the exhaustion of the closed nasal cavity.

There are, of course, other causes which come into play. An enumeration of them would include heredity, syphilis, rickets, habitually blowing the nose with the same hand, habitually sleeping on one side, tendency to vertical overgrowth of the septum, faults of primary laws of organization, action of astringents, habit of putting the finger in the nose, overgrowth of component parts of the septum, traumatism (given first place by the author as a potent cause in young people, next to catarrh and engorgement of the erectile tissues), injuries to root or branches of the facial nerve going to the dilating muscles, and finally, tumors, polyps, hypertrophies, abscesses, and foreign bodies.

Temporary nasal obstruction, then, lasting for any considerable time, tends to produce, and does produce, collapse of the walls of the closed nasal cavities, and so chronic or permanent nasal obstruction.—(*Am. M.-S. Bulletin.*)

The Nose and Nausea.

Dr. C. W. Ingraham (*Am. M.-S. Bulletin*) claims that the application of a 2 per cent. solution of cocaine to the mucous membrane of the nose will almost instantly, in the majority of cases, relieve nausea. The reasons why are worked out from a physiological basis.

Use of Anæsthetics in Adenoid Operations.

Dr. T. Melville Hardie (*Annals Ophth. and Otol.*) in the course of an article on adenoid vegetation says:

“As reasons for using anæsthetics may be mentioned, (1) the fact that the operation is usually a painful one, frequently a very painful one. (2) A thorough operation, which is by most men considered necessary, cannot, as a rule, be performed without general anæsthesia, except in adults. (3) A burned child dreads the fire, and a child who has had curette or forceps used once will ever after retain a decided objection to a second introduction of the instrument. Children, like elephants, have long memories for injuries.

“You will conclude, I hope, that in the absence of disease of heart or lungs, and where the growth is not limited to one central mass merely, and where the child is old enough to know it is being hurt and to remember it, anæsthesia should be induced.”

Adenoid Vegetation.

Dr. T. Melville Hardie (*Annals of Ophth. and Otol.*) concludes an able article on adenoid vegetation :

“1. Adenoid vegetation should be removed under general anæsthesia in the great majority of young children.

“2. The cold snare and cocaine anæsthesia are satisfactory in older children and adults, but cocaine should not be used in young children.

“3. Vitrous oxide anæsthesia is frequently of too brief duration for the proper performance of this operation.

“4. Ethyl bromide, apart from the question of its safeness, which is still undecided, is a desirable anæsthetic in many cases.

“5. Ethyl bromide is not well taken as a rule by very nervous or frightened children.

“6. Ether should be substituted for bromide of ethyl where the operation is likely to be a lengthy one.

“7. The Gottstein curette is, all things considered, the most satisfactory single instrument, and particularly in bromide of ethyl operations.”

LARYNGOLOGICAL.

Malignant Diseases of the Larynx.

Felix Semon (*Clinical Journal, Journal of Laryngology*, July, 1896) states that the etiology of cancer of the larynx is involved in the same uncertainty as that of malignant disease elsewhere. It is always primary, never secondary or metastatic, or attacks the larynx by contiguity only. The reason of this is, the lymphatics of the larynx do not freely anastomose with those of their neighborhood. Sarcoma of the larynx is very rare; and of carcinomata, epithelioma is by far the most common. The male sex is infinitely more liable than the female for some unknown reason. Smoking and professional voice-use do not account for the difference. Enormous majority of cases occur between forty and seventy years of age, the extremes in Dr. Semon's experience being twenty-six and eighty-three years of age.

In intrinsic disease the cords are most frequently first affected, and the one invariable symptom present is hoarseness. This may last for months, or even a year or more, without a single other symptom intervening. Pain does not depend on the disease *per se*, but on the implication of the sensory nerves, and may never occur up to the time of

death. Slight and repeated hemorrhage is very characteristic, but often there is none. Malignant disease may commence locally as a simple congestion, followed by tumefaction, or may assume at once the form of diffuse tumefaction in any part of the larynx. It may begin as a globular, sessile, nodulated mass, or present the characters of a simple papilloma or fibroma. To distinguish simple from malignant growths, remember the tendency of benign growths to localize themselves in the anterior parts of the cords; while malignant growths appear on the posterior parts, or on the inter-arytenoid fold, the epiglottis, or aryteno-epiglottidean fold. Again, in simple papilloma the apices are more or less rounded; while in malignant disease the individual projections of the growths are very much pointed, and the growth is much whiter in color. Impaired mobility of the cord need not always be present in cancer, for the disease may be of a superficial character at first. The average duration of life in cancer of the larynx is between two and three years. The cases most favorable for operation are those in which there is a definite tumor of one cord. Thyrotomy, with removal of all the soft parts on the affected side, has yielded in Dr. Semon's hands fifty-eight per cent. of lasting cures. Where the disease is too advanced for thyrotomy, a part or half of the larynx must be extirpated. The cases most suitable for this operation are those in which the disease is situated on the front parts of the larynx. In cases which do not permit of radical operation early tracheotomy is the best palliative.

W. S.

Throat Affections in the Eruptive Fevers.

J. Dennis Arnold, in the *Occidental Medical Times*, presents a timely and valuable paper, urging upon the general practitioner to give more weight and attention to the affections of the upper respiratory tract in the eruptive fevers, maintaining that they are "inclined to make light of such local lesions." The conditions of the nose, pharynx and larynx in measles, scarlatina, variola and typhoid fever, and the serious results of these upon the course of the general disease, and the treatment of each, are clearly described; and the author concludes that, "In view, therefore, of the important part played by the throat symptoms during the course of all the febrile exanthemata, it is evident that they should not be neglected as to active topical treatment, when it is probable such measures will be of avail in retarding or altering the disease as manifested upon the mucous surface. Of course the local therapy can in no wise replace a constitutional treatment which, from the nature of these diseases, must be chiefly tonic and supporting."

F. B. E.

Intubation.

By pressure with the thumb on the trachea, just below the cricoid cartilage, cough was produced, which forced out a tube that had sunk into the laryngeal cavity (Trupp, *Universal Medical Journal*). More powerful pressure in the same region would probably force the tube out of the mouth.

M. D. L.

A Case of Glossitis.

This peculiar form of what might be called transitory glossitis occurred in a commercial traveler, forty-five years of age (Dr. W. Washburn, *Medical Record*, August 1, 1896). He complained of sore-throat and pain down the left side of the neck. The author was hastily summoned to the patient, and found him conscious, but unable to speak. The mouth was forcibly open, but the tongue filled the whole opening, the teeth being embedded in the tongue. Closer examination showed that the left side of the organ was extremely thickened—nearly three inches—and that the right side was very little affected. Under ice applications and liberal incisions into the swollen parts, considerable relief was experienced. The affection then migrated to the other side of the tongue. Similar treatment succeeded in effecting a cure.

M. D. L.

Diseases of the Trachea, Bronchi and Lungs, Treated by Intra-Tracheal Injection.

Though this method of local medication is not of recent date, nevertheless it has proven worthy of more extended application. Dr. J. L. Barton, in *Medical Record*, August 1, 1896, claims the following advantages, *i. e.*:

1. The remedy is applied directly to the irritated mucus surfaces.
2. It quickly relieves distressing symptoms.
3. The antiseptic effect of the medicament is very pronounced, as shown by the longer interval between the febrile attacks and by their lessened intensity when they occur.
4. Rapid absorption of the remedy by the mucus membrane of the trachea and bronchial tubes.
5. Avoid disturbing the patient's stomach.
6. Not interfering with any other line of treatment.
7. In conditions of atrophic manifestations, the injections remove the odor of decomposition, and assist materially in stimulating the tissue. The author employs combinations of any one of the petroleum oils with euophen, guaiacol and menthol, in from one per cent. to two and a half per cent, of euophen; two per cent. solution of guaiacol and up to fifteen per cent. solution of menthol.

[For three years or more, I have employed these intra-tracheal injections in similar complaints, especially, however, in pulmonary disease. The initiative solution was one of guaiacol one per cent., menthol four per cent., and olive oil. Two drachms were given daily or every other day until the patient could stand stronger solutions. These were gradually increased until guaiacol or creosote (beechwood) five per cent., menthol twenty-five per cent., were injected. My experience has led me to believe that it is a serviceable method of prompt medication, and I would suggest a more general application of this form of treatment.—ED., M. D. L.]

M. D. L.

The Bracelin Treatment for Diphtheria.

In a letter to the editor of the *Journal of the American Medical Association* (July 4, 1896), Dr. P. M. Bracelin gives a description of the remedy for diphtheria which bears his name.

In January, 1893, he discovered this remedy, which he claims meets all the requirements of the ideal remedy. He has been experimenting with, testing clinically and improving on the original idea, until now he believes it to be as near a specific for diphtheria as it is possible for a remedy to be in any disease. Since that time he has treated a large number of diphtheria cases in all stages of the disease, and has lost only about one per cent.; and he believes that he has verified his theory that if chlorine gas, corrected, should prove to be a safe bactericide for diphtheria, it would also be an effective remedy for all diseases of the respiratory organs of a microbic origin.

The remedy consists essentially of chlorin, deprived of its suffocating, irritating qualities by an emollient corrective. Two liquids are used, No. 1 and No. 2, the second being added to the first in proportion of one to five parts slightly warmed, and the vapor inhaled as directed. Some diseases, such as diphtheria and pneumonia, require its use once every hour, others but four or five times a day. The formulas are as follows:

SOLUTION NO. 1.

Solution zinc chlorid.....	20 parts.
Solution arsenic chlorid.....	30 parts.
Hydrochloric acid	1 part.
Water	49 parts.

SOLUTION NO. 2.

Solution chlorinated soda, standardized to 2.6 per cent., available.	
Chlorin.....	70 parts.
Corrective	30 parts.

NOTE.—The corrective consists of menthol, camphor, eucalyptol and salicylate of menthol, dissolved in alcohol and water (the proportions are not stated).

W. S.

Tonsillitis as a Factor in Rheumatic Fever.

Sir Willoughby Wade (*Gaillard's Med. Jour.*, Aug., 1896) presents the details of the recently advanced theory that rheumatic fever is primarily due to tonsillitis. Clinical observers have for some time noticed that rheumatic fever is often preceded by tonsillitis. It was suggested that the poison of rheumatic fever might be fabricated in the mouth and throat, and gaining entrance into the tonsils and into the system, produced first the tonsillitis and then the rheumatic fever. It was observed that the micro-organisms primarily multiply in the lacunæ of the tonsil, and that they or their toxins enter the system through the abundant lymphatics in the neighborhood of the lacunæ. To present the theory concisely, tonsillitis is a primary infective disease of the lacunæ; rheumatic fever, a secondary disease, arising from the absorption of micro-organisms or their products into the system.

That the theory of microbic origin of rheumatic fever is making headway may be seen by reference to Dr. T. J. MacLagan's article on "Rheumatism" in the "Twentieth Century Practice of Medicine," and to the reported discussion on "Rheumatic Fever" at the last annual meeting of the British Medical Association.

In considering the nature of tonsillitis, the Laryngological Section of the British Medical Association summarized as follows:

1. The clinical phenomena correspond in every particular with those of an infective disease.

2. Cases have been noted in which the disease had undoubtedly been transmitted from one person to another.

3. Various species of coccus and bacillus are to be found within the lacunæ, within the closed follicles, are even within the epithelial cells of tonsils removed during the acute stage. Leucocytes in large numbers are found associated with the micro-organisms.

From a throat point of view the natural history of tonsillitis shows that it is divisible into the following classes:

1. Tonsillitis with or without abscess, which is neither preceded, attended nor followed by rheumatism.

2. Cases of repeated tonsillitis without rheumatism, then an attack remotely followed by rheumatism.

3. Cases of first attack immediately followed by rheumatism.

4. Cases of first attack remotely followed by rheumatism.

To all of these subdivisions sufficient clinical data are presented. These clinical facts strengthen the suspicion that there is a special micro-organism capable of affecting the system, first, by the vehement local symptoms characteristic of acute tonsillitis; secondarily, by the

promotion of some body-toxine influencing the blood, lymph, or nervous system and known to medical lore as the "rheumatic diathesis."

It is suggested to bacteriologists that separate cultivation under varied conditions of the micro-organisms usually found in acute lacunar tonsillitis, and the physiological testing of their products be made; a microscopical examination of the blood should be undertaken to determine the presence of any morbid elements which might be associated with the rheumatic diathesis.

The Relation of Acute Diseases of the Nose and Throat to Disorders of Digestion.

Dr. Moreau R. Brown (*N. Y. Med. Jour.*, Aug. 29, 1896) writes: "Clinical experience demonstrates that there are certain well-defined relations existing between acute inflammatory conditions of the nose and throat and other disordered organs of the body. The connection between acute inflammation of the upper air-passages and disorders of digestion are often shrouded in mysteries which pathology has, as yet, failed to unfold.

"What bacteriological research has failed to establish is demonstrated clinically—namely, that an acute inflammation of the upper air-passages will create disorders of digestion by direct infection through the mass of muco-purulent secretion, loaded with bacteria, which finds its way into the stomach. But, as to the reverse process, is it probable that the upper air-passages become inoculated directly by the stomach contents?"

In conclusion, B. states that no proof has as yet been presented of the direct causation of acute inflammatory processes in the upper air-passages by stomach disorders; but clinical observation is abundant in favor of such causation and the hope is expressed that bacteriologists will soon be able to supply direct proof.

Chronic Diphtheria.

Dr. E. B. Gleason (*Atlantic Med. Weekly*, Aug. 29, 1896) writes: "It is probable that so-called chronic diphtheria is by no means as rare as stated in text-books written prior to the discovery of the Klebs-Loeffler bacillus, and that many cases of the milder forms of this disease are not recognized as diphtheria by the physician in attendance."

Under certain circumstances, diphtheria may run a mild course without much febrile disturbance or formation of pseudo-membrane. A mild sore throat affecting a physician or nurse in attendance upon a

case of diphtheria is not an uncommon source of anxiety and is often of this character.

Usually primary nasal and mild faucial diphtheria yield so readily to efficient treatment, that it is difficult to convince the patient's family that the disease is diphtheria. Reporting such cases to the board of health and quarantining the premises where such a mild case has occurred is resented as something more than an absurdity and an impertinence, yet the duty of the profession is plain in such cases; for although primary nasal diphtheria and mild faucial diphtheria are probably not as contagious as the malignant form, yet cases have frequently been reported which, after running a mild course for a week or more, have suddenly assumed a malignant form. The finding of the Klebs-Loeffler bacillus upon the mucus-membrane should be followed by active preventive measures.

The Nature of Laryngeal Complications of Typhoid Fever.

In a recent discussion of this subject before the Laryngological Society of London (*Journal of Laryngol.*), Kanthack and Drysdale reported that St. Bartholomew's Hospital post-mortem records showed for a period of four years, sixty-one fatal cases. The larynx had been examined in fifty-three, and ulceration was found in 26 per cent. of the latter number. The loss of substance was generally over the tip and edges of the epiglottis and in the neighborhood of the processus vocalis. In these fourteen (26 per cent.) cases the epiglottis was affected alone four times, the larynx proper seven times, both larynx and epiglottis once; in two cases the soft palate or pharynx was ulcerated as well as the epiglottis.

These lesions are more apt to come on during the later stages of the fever, and the principal interest centers in their pathological nature. Are they specifically typhogenetic? Bacteriological evidence on this point is very incomplete, and such as there is points against a specifically typhogenetic character.

Nor, moreover, is this view supported by clinical evidence. There seems to be no relationship between the symptoms of the fever and the laryngeal lesions. The condition of the mucous membrane of the mouth and pharynx is of importance: in nine out of twelve fully reported cases it was described as dry and brown over the tongue, in four fissured as well, and in one even bleeding. In many, if not most, cases the patient was in the so-called "typhoid state." This condition must act as a predisposing element, especially since it may be assumed that the laryngeal mucosa may be in a similar condition. It is then readily injured and forms a portal of entrance for pyrogenetic cocci,

always present in the mouth and pharynx. Naturally this would occur most commonly over and in the most insufficiently vascularized portions—*i. e.*, the tip and edges of the epiglottis and the processus vocalis. This explanation does not, however, satisfy all cases, and difficulties still remain.

Undoubtedly the lesions are microbic in origin, but they arise from pyococci, and but rarely from the typhoid bacilli.

N. Watson Williams was of the opinion that the fever bacillus was a more frequent factor in causation than the preceding authors would admit. Autopsies had shown that in fatal cases a peculiar form of laryngitis was present in which the lesions on the lymphoid follicles were similar to those occurring in Peyer's patches. Moreover, the frequency of laryngeal ulcers in typhoid as distinguished from their rarity in other exanthemata, pneumonia, and acute bronchitis, together with the fact that they were specially prone to occur when lung lesions (probably specific) predominated, was strong *prima facie* evidence of their specific nature.—(*Am. M.-S. Bulletin.*)

Acute Miliary Tuberculosis of the Pharynx and Larynx.

Dr. Gottlieb Kûer, in the *Ugeskrift for Læger*, 1895, reports three cases of primary pharyngeal tuberculosis (miliary). Patients were: female, aet. 8 years; male, aet. 23 years; and male, aet. 55 years. The onset of the disease was rapid, characterized by great difficulty in swallowing, extensive ulceration of the pharyngeal mucous membrane; in the cases cited, the initial tubercular lesions were followed by a rapid extension upward into the naso-pharynx and downwards into the larynx. It is especially emphasized that the esophagus and hard palate were not involved in any of the cases reported. Nourishment was sustained by enema, etc.

Post-mortem examination substantiated the clinical data.

OTOLOGICAL.

Seeing Sounds.

An interesting editorial in the *Maine Journal of Medicine and Science*, May, 1896, reads as follows:

“A few years ago a deaf and dumb man was a visitor in a certain band-room where a number of musicians were assembled. Somebody proposed a test to ascertain if the deaf mute could hear a cornet when sounded close to his ear. The trial was made. At the blast of

the trumpet the deaf man started, looked very much surprised, and acted exactly as if he heard the sound. All the musicians were satisfied that he did hear it. They were accordingly very much surprised when they found he had written upon his slate the words "a bright red light." On further inquiry it was learned that when the cornet was played the deaf man did not hear the sound, but a bright red light flashed before his eyes. He saw the sound, but did not hear it. This explanation was a great mystery to everyone present. The matter was long discussed, but no further light was thrown upon the mysterious statement of the deaf man.

But now comes the eminent biologist, Herbert Spencer, and declares that all the five senses are in reality one—and that one, touch. Hearing, seeing, smelling, tasting, are all modifications of touch. The most sensitive touch organ is that possessed by the feline tribe. The vibrissæ or whiskers of the cat are connected at the root with a nerve cell. When the outer end of the hair approaches or comes in contact with any object the impulse runs along the shaft to the nerve cell at the root, and sensation results. Now the eye is simply a highly specialized organ of touch, so adjusted as to be sensitive to the impact of waves of light. In the same way the ear is a highly sensitive organ of touch, taking cognizance of waves of sound. When we come to think of it, we see that all this is within the bounds of common-sense, and we acquiesce without demur with Spencer's theory.

Then follows the celebrated physicist, Dr. Heinrich Hertz, with his declaration that light, electricity and sound are all modes of motion, differing only in the length of the waves, in the way in which they move, and in the manner of their impact.

Again, the highly educated deaf mute, Kruse, affirms that though he is "stock deaf" he has a bodily feeling of music, and different instruments have different effects upon him. Musical tones seem, to his perception, to have much analogy with colors. The sound of the trumpet is yellow to him, that of the drum is red, while the music of the organ is green, and that of the bass-violin blue, and so on.

In confirmation of these statements of Kruse, it should be noted that language shows clearly that men in general have a strong feeling of such analogies among the impressions of the different senses. Expressions such as "schreiend roth" and the use of "loud" as applied to colors and patterns evince a sense of an analogy between sound and color.

In some mysterious way sound waves are perceptible to the organ of sight in certain individuals. Not long since a youth appeared in Zurich, to whose eyes musical sounds presented themselves in shades

and tints; high-pitched tones appeared as brilliant colors; low-pitched tones in somber hues. M. Pedrome, of Nantes, tells of a friend who had similar peculiarities, and who claimed that he could see the color of different voices. When his eyes were shut sounds conveyed direct color impressions to his mind. When his eyes were open the sound appeared in its color near to the body itself, as over the keys of a piano, or directly over the head of a vocalist. This man was examined by several specialists, who agreed that the man's chromatic sensitiveness was so sharp that the luminous impression was made before the sonorous one; for they found that before he could judge of the intensity of a sound, he could see its color. This explanation is not very clear, but is perhaps as lucid as some other explanations which have emanated from eminent specialists.

Dr. Nussbaum has, recently, again brought the subject of sound-color to notice. To him each sound has its peculiar color; one corresponding to red, one to yellow, another to blue, to green, etc.

In 1734 Father Castel, a French Jesuit, constructed a "color harpsichord," upon the theory that there are seven primary colors, and that there are seven intervals in a musical octave. His intention was to produce an instrument which would show to ordinary visions these color notes as they are now seen by an exceptional view. This ingenious priest died, however, before perfecting his instrument, and left no detail of its construction.

From the foregoing facts it seems to be well established that color perception accompanies every tone of the scale. When we remember the similarity of the structure of the eye and ear, both being highly specialized organs of touch; and when we also call to mind the connection between sound waves and light waves, we can seem to get a glimpse of the way in which this interchange might come about. Both the eye and the ear are touch organs, affected by the impact of waves; both sound and light are forms of wave motion, which make an impact upon highly sensitized touch organs. It is also worthy of note that the *Daily Press* has just announced that Tesla has come to the conclusion that the so-called X rays correspond much more closely to sound waves than to waves of light.

The latest researches are those of Mr. Rivington, of London, with his new invention which he calls the "color-organ." By means of this instrument, when certain keys are struck the melody is reproduced in a combination of color tones upon a screen at the instant when the tone is heard by the ear. At a recent concert the delicacy of this new instrument was clearly demonstrated. The *Allegretto*, a musical journal, thus describes the effect: "Chopin's Preludes were played,

and a screen reflected a bewildering succession of color waves, passing so rapidly that the eye could scarcely detect them all. They ranged through the length of the spectrum, and they flashed out even the half and quarter tones of color in immeasurably lovely combinations, which hitherto the imagination had not conceived. They were the result of a harmony that worked alike for the eye and the ear. Endless combinations of color were produced by principles that govern the diatonic scale and musical octaves. The key-board of this color organ resembles that of a piano, and whenever a note is struck its color appears on the screen. Chords show combinations of tints which are comparable only to harmonic combinations of musical notes, middle "C" corresponding to low red; the other "Cs" show other reds, toning perfectly. This invention of Mr. Rivington is the first completed instrument to show a definite connection between sound and color.

Deaf-Mutes.

Editorial in *Atlanta Med. & Surg. Journal* presents the following:

It is not so well recognized as it ought to be that a large proportion of deaf mutes retain a certain amount of hearing power. We say retain, because the majority of these unfortunates are sufferers from the results of aural disease developed before speech has been thoroughly acquired. It is true that in children of deficient intellect speech may be practically impossible, and that these cases are sometimes hard to separate from true deaf-mutism.

In a minority of cases the defect is congenital, and it seems to run in families, without however being commonly hereditary. Consanguinity in parents has a more decided influence, and syphilis, maternal impressions, alcoholism, bad hygiene, etc., are probably important factors in its production.

In this country and on the continent of Europe intra-cranial disease is probably the most common cause of acquired deaf-mutism, and cerebro-spinal meningitis is specially prominent in statistics. But disease of the external, middle, or inner ear, producing deafness, will also produce mutism when the patient is insufficiently advanced in intellect on account of age or natural deficiency. A child who loses his hearing, or becomes distinctly deaf, before the age of four will almost certainly also lose the power of speech, and between four and seven the progress as regards speech will mainly depend on the child's intellectual activity. Totally deaf mutes are the exception, though authors differ as to the exact percentage. The practical point is whether or not sensibility for sound exists to such a degree as can be utilized in teaching. Thus Love found that such sensibility existed

in 25.27 of his cases, and Walker (*Med. Fortnightly*, March 2, 1896, and *Annals of Opthal. Otology*, etc., May, 1896, p. 515,) found that 11 per cent. of the children whom he examined had 30 per cent. and over of hearing. If children could make as much use of their defective ears as adults can these would all have comparatively little trouble, for adults can get along with 7 per cent. of hearing power with artificial aid, but children are unable to put forth the necessary exertion. In New York 5 per cent. are taught through the ear, and in Nebraska an effort is being made to teach 34 per cent.

When speech cannot be taught through the ears, one must fall back, when the child is above seven years old, upon the system of oral instruction and lip-reading, which consists in teaching the pupil to speak by imitation of the movements of the lips and tongue, modulation being secured by allowing him to feel with his fingers the vibrations of the teacher's larynx. For hearing is substituted observation of the speaker's lips.

According to Hartmann, a few pupils learn so successfully that a stranger does not notice any defect; one-third, though their speech is peculiar, can yet converse with anyone; a second third can be understood by acquaintances alone, while the rest turn again to the language of signs.

The Differential Diagnosis of Vascular and Muscular Tinnitus Aurium.

Dr. Thos. F. Rumbold (*St. Louis Med. & Surg. Jour.*, June, 1896) states: If the ear sounds are carefully analyzed, they will be observed to be of two very different varieties. They differ in character, location, etiology, mechanism and in their treatment.

(a) *Vascular Tinnitus Aurium*, caused by an increased blood pressure, and by the flow of blood through the irregular-calibered blood vessel of the internal ear and adjoining structure.

(b) *Muscular Tinnitus Aurium*, produced by some disturbance of the muscles of the middle ear, causing vibrations by alternate contractions and relaxations.

Many patients who experience excessive tinnitus, will hear a conversation in a moving railroad coach better than in a quiet room, showing the influence of extrinsic noise upon the tinnitus. This condition, known as "paracusis," is positive proof of the presence of *muscular tinnitus aurium*. On the other hand, the *vascular* form is not influenced by paracusis; as a rule, it even tends to decrease the hearing.

A patient may suffer with both varieties of tinnitus at the same time.

Rumbold applies the following simple, though efficient test for a differential diagnosis: The trumpet extremity of a Canmann's stethoscope is covered by a thin sheet of india rubber, and by aid of an atomizer bulb or compressed-air cock a small stream of air is directed upon the covered trumpet. This gives rise to quite a loud, but not disagreeable noise. The noise can be varied in intensity at will, by approaching or withdrawing the air tube from the rubber sheet. This noise will, in a case of muscular tinnitus, temporarily arrest the tinnitus. This temporary cessation constitutes the differentiation between this tinnitus and the vascular variety.

It is often of the utmost importance to establish this differentiation, for a treatment that may be of great value to a patient suffering from the muscular variety might be decidedly injurious to one suffering from vascular tinnitus, and *vice versa*.

Contribution to the Pathological Anatomy of the Deaf and Dumb.

E. Schmiegelow (*Ugeskrift for Lager*, 1896) reports the results of a post-mortem of a deaf and dumb woman. Inspection showed well-developed temporal bones, middle ear normal, Eustachian tubes permeable. Both labyrinths, on microscopical examination, presented the same characteristics: the terminations of the auditory nerve in the cochlea were atrophied; every trace of nerve elements from the ganglion spirale to the organ of Corti had disappeared. The lower portion of the scala vestibuli and scala tympani contained a profusion of connective tissue fibres; the membrana Reissnerii had disappeared. The nerve elements and segments in the vestibule and semicircular canal had not been involved. The pathological picture almost corresponds with that described by Scheibe (*Zeitschr. für Ohrenheilk*, 1895, p. 100.)
G. K.

Lesions of the Tympanic Membrane.

In recording some of his observations, Professor Politzer (*The Medical Herald*, July, 1896) remarks that lesions of the tympanic membrane are primary and secondary. Primary inflammation is localized in the outer layer. In the course of influenza, hemorrhagic vesicles may appear. In acute otitis media, lesions resembling those of a primary myringitis may occur, though in the former affection the hearing is markedly disturbed. The presence of a serous fluid behind the tympanic membrane is shown by a characteristic line of the drum. The liquid may be removed through the Eustachian tube by insufflation,

with the head bent sideways. Diffuse opacities of the membrane, due to calcareous deposits, are at times the result of a catarrh of the middle ear. In sclerosis of the labyrinthine capsule, the promontory is seen through the tympanum, and is of a reddish color. Ferric chloride is recommended as a caustic for granulation tissue.

M. D. L.

Indications for Perforating the Mastoid in Acute and Subacute Middle-Ear Inflammations.

Felix Cohn (*N. Y. Med. Journal*, Aug. 8, 1896), in an excellent, concise article, presents the following summary:

The presence of hyperæmia and congestion alone is no indication for opening the mastoid.

The mastoid should be opened in all cases of diagnosticated osteitis if under the usual antiphlogistic treatment the inflammation shows no tendency to resolution.

In pronounced cases of antral empyema in which the character of the discharge is purulent and the empyema shows no tendency to discharge completely through the middle ear.

In all cases of protracted otitis with profuse otorrhœa which show no tendency to resolve within a reasonable period, the time chosen for operation depending upon the manifest symptoms, whether, for instance, retention is present or the mastoid bone itself is involved.

In every case of acute otitis in which there are dangerous symptoms of resorption, and in which the drainage cannot be established by paracentesis or by natural perforation. In those cases, even without manifest symptoms of mastoid affection, the mastoid should be opened, in order to produce a more favorable drainage and enable a thorough cleansing of the middle ear.

In all cases of muco-purulent otitis in which the otitis is evidently maintained by mastoid involvement, the time for operation depending upon the condition of the patient and the presence or absence of symptoms pointing to retention, or other complications of a serious nature.

In cases of mastoid disease, or otitis complicated by lymphangitis or lymphadenitis, in which there is an imminent danger of the formation of abscess, and in those cases in which the lymphadenitis does not tend to resolve under ordinary antiphlogistic treatment.

In cases of protracted otitis in which there are symptoms of serious secondary complications, involving danger of extension of the inflammation inward toward the brain, or downward toward the neck.

In cases of acute otitis in which complicating stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

Chronic Anæmia of the Labyrinth; the Nitrite of Amyl Test.

M. Lermoyez (*The Journal of Laryngology*, July, 1896) states that apparently there are two forms of circulatory disturbance of the labyrinth, viz., hyperæmia and anæmia, having symptoms so much alike that none of the classical signs suffice for a differential diagnosis. But the nitrite of amyl test is decisive.

Let the patient inhale a few minims of nitrite of amyl. If there is congestion of the labyrinth the tinnitus and deafness will increase considerably; if anæmia of the labyrinth, the tinnitus will diminish and the hearing power increase at once, as if air douche had been given. There is no danger in such a use of amyl nitrite. Unpleasant effects, however, are produced by the repeated use of the drug—besides, it very soon loses its efficacy. He therefore prefers tri-nitrite (as used by Huchard in the treatment of angina pectoris), either combined with the treatment of the pathological cause of the anæmia, when that can be discovered, or alone, in the very much larger number of cases in which the cause remains unknown. W. S.

The Treatment of Labyrinthine Vertigo.

At a recent meeting of the Société française de laryngologie, otologie et rhinologie, a report of which appears in the *Gaz. heb. de med. et de chir.* for May 21, M. Gellé stated that vertigo which was caused by lesions of the tympanum or of the annexa was very frequent (*N. Y. Med. Journal*). The treatment to be employed should tend to relieve pressure and to free the labyrinth with the use of Politzer's bag, the catheter, rarefaction, etc. If the alterations had become established, then auricular surgery should be resorted to. If there was a hyperæmia of the drum of the ear, paracentesis of the tympanum should be done, and this should be followed by baths of warm water prolonged in order to facilitate the flow of blood. Afterward pilocarpine or the iodides should be injected hypodermically. For a gouty patient, tincture of colchicum, colchicine, or sodium salicylate might be used. If there were cardiac troubles or albuminuria, a milk diet and intestinal revulsives rendered great service. If labyrinthine congestion was active, the treatment was the same as that for hemorrhage; if it was passive, and connected with disturbances of the central circulation, the treatment should consist of a milk diet, the use of strophanthus; etc. Cold or steam baths should be avoided; also exciting mineral waters. Bromides and arsenic were indicated; cold douches were applicable only to the passive, neurasthenic forms.

Anemia, said M. Gellé, caused vertigo, and if there was an aural lesion, the effects were more marked on the deaf side. The treatment

to be employed, according to the pathogenic indications, consisted of the use of tonics, iron, some of the iodides, kola and caffeine.

Inflammation of the internal ear was frequently very grave and often beyond medical resources. In the beginning, pilocarpine, quinine, and strychnine gave good results. If hereditary syphilis was suspected, a specific treatment might be tried.

Labyrinthine vertigo, said M. Gellé, might very frequently be attributed to a mechanical cause, such as shock, deglutition, centripetal pressure, mastication, congestion, etc. Hyperesthesia of the labyrinth led to a predisposition to this cause, while at the same time a lesion of the organ exposed it to an abnormal concussion. The best medication was with quinine sulphate, of which nine grains might be given during the day, in three doses of three grains each at meal times. After a few days this quantity might be increased to eleven and twelve grains. This treatment could be repeated two or three times at intervals, according to the effect obtained, notwithstanding the buzzing it caused. A general quieting treatment might be employed at the same time. Paracentesis of the tympanum relieved the labyrinth, and in nervous persons cold douches hastened recovery.

Infectious diseases and toxemia were often accompanied by vertigo and deafness, and in this case the treatment varied according to the pathogenic cause. Vertigo was often an early symptom of sclerosis, and it was often mistaken for that due to disturbances of the stomach. It was also frequently caused by uterine, hemorrhoidal, pulmonary and psychical affections. The labyrinth, said M. Gellé, was like a manometer; it expressed the variations of the blood-pressure and of the nervous system under the form of vertigo, buzzing and hallucinations.

Phono-and-Pneumo-Massage in Suppurative Disease of the Ear.

Dr. Louis J. Lautenbach (*Med. and Surg. Reporter*, July, 18, 1896) presents the results of two years experience with this additional feature to the treatment of suppurative otitis. The author urges that otomassage should be added as a valuable adjunct to our older and well-tried methods of treatment.

The pneumo-massage instrument is used to remove the aural discharges in connection with wet or dry cleaning. Of cleaning the ear, L. writes:

I first treat the ear according to the present methods, and when I consider it fairly clean I use an exhaust apparatus, with a pressure of from two ounces to four pounds per square inch for from three to ten minutes, employing about 300 exhausts per minute. Then, I again thoroughly cleanse the ear with cotton, and if I am at all suspicious of

there being more suppuration present, I again apply the exhaust pump. After thus cleansing the ear, I use drying and stimulating preparations in the usual manner. Often in simple cases, after cleansing the ear, I lightly plug with cotton, using no other treatment.

By this massage method, I often succeed in reducing the infiltration and inflammation. Often even in acute suppuration, with severe pain, I employ it, and by its means relieving the pressure of the discharges, cause a rapid disappearance of the pain, the inflammation subsiding, the surrounding swollen tissues soon returning to their normal condition, the discharges ceasing, the ear often quickly resuming its normal functions.

In addition to this, the massage being used daily, formation of lymph bands and other adhesions is avoided; the drum-heads, ossicles and their connections are prevented from becoming fixed and immovable, the hearing being in a great part preserved.

The author concludes:

Pneumo-massage aids in the prevention of the extension of inflammation as well as in the subsidence of the inflammatory action, through the aid it affords by thoroughly cleansing the middle ear of all the discharges, thus relieving the excessive tension, thus preventing infiltration and disintegration of ear structures, with consequent extension to the internal ear or mastoid cells or both.

Pneumo-massage preserves intact the normal sound-conducting structures and restores them when ankylosed or abnormally attached, or when restricted in their movements, to a condition more nearly natural than can be attained by any other method.

Pneumo-massage relieves the increased pressure on the internal ear so often observed as the cause of deafness in these cases.

Phono-massage restores, at least in part, to the internal ear-structures their normal receptiveness, by occasioning a physiological stimulation of the nerve endings and their connecting parts, which had either from disuse or increased pressure been placed in a dormant or non-responsive condition.

Acute Otitis Media.

Dr. Bulson (*Ft. Wayne Med. Magazine*) says:

"1. Consider 'ear ache' as a warning note of danger to the patient, both as respects function of hearing and life, and carefully inspect the visible parts implicated in the inflammation.

"2. Avoid opiates, which often times but mask the symptoms, and if within the first few hours no relief from pain results from hot applications and local depletion, perform paracentesis whether bulging of the membrane is present or not.

"3. Incise the drum membrane at once if bulging is detected indicating early perforation, as it is important to if possible control the character, extent and location of the opening in the drum membrane in order to limit destructive changes.

"4. With the appearance of discharge, begin the process of cleansing, adopting nothing more than warm detergent and non-irritating antiseptic solutions, and using them sufficiently often to keep the parts free from collections of mucous or pus.

"5. Keep the naso-pharynx free of discharge by detergent sprays, and cautiously use Politzer inflation to assist in removing discharges from the middle ear, as well as to aid in preventing depression of the healing drum membrane and possible adhesion.

"6. To secure the best possible results, which are always desirable, and due both patient and physician, persistently follow treatment until all discharges have ceased and the perforation thoroughly closed."

[After thoroughly cleaning the ear use the dry treatment.—Ed.]

Otitis in Measles.

Bezold claims that otitis is invariably an accompaniment of measles.

Vaselin in Middle Ear Affections.

Delstanche (*Annales des Maladies de l'Oreille, du Larynx*) reports obtaining good results from the intra-tympanic injections of pure liquid vaselin in both acute and chronic middle ear affections. Dr. Thos. F. Rumbold years ago reported good results from an aural spray of vaselin.

The Treatment of Diseases of the Nose and Ear With Oxygen Gas.

Dr. George Stoker (*N. Y. Med. Jour.*, Aug. 29, 1896) presents this therapeutic method in the treatment of ozæna, (a) syphilitic, (b) chlorotic, and in chronic suppurative diseases of the middle ear.

The method of applying the treatment is as follows :

The oxygen is contained in a wedge-shaped bag made of mackintosh. This bag is placed between two boards (pressure boards), such as are used with the oxyhydrogen light. From this bag a tube leads, which terminates in a nose or ear piece. There are two taps—a large one on the bag, for the purpose of filling it, and a small one to regulate the stream of oxygen during treatment. This bag contains one cubic foot of gas, or of gas and purified air mixed in equal quantities, and this

amount should suffice for six hours' treatment. In the great majority of cases I use equal parts of oxygen and purified air. This latter is prepared by being pumped by means of a bellows or hand ball through two wash bottles, the first containing some water and the second Condyl's fluid. The bottles are attached to the bag for this purpose, and when the bag is half full it is then detached from the bottles and filled up with oxygen. The bag being filled, we are then ready to begin the treatment. The nose piece is passed into one nostril, the other nostril being plugged with cotton wool; the patient is directed to breathe through the mouth, the taps are turned on, and the treatment is begun. In ear cases the only difference is that the terminal piece is placed in the external auditory meatus, and in case of either ears or noses it is desirable to have several different-sized terminals to fit different-sized orifices. The oxygen should be allowed to pass into either the nose or ear from three to six hours daily. In nose cases it is best to use it about half an hour to an hour at a time, giving intervals of rest between the times. If used for more than an hour in nose cases it is apt to cause headache. The only additional treatment is using warm water to cleanse the parts during the day; the necessity for doing so seldom or often will of course depend on the amount of the discharge, but it must not be done less than twice daily.

The author reports a series of clinical cases, in all of which decided, rapid improvement was noted. The application of oxygen gas has also been made in cases of purulent discharge from accessory nasal cavities, *i. e.*, the antrum and the frontal and ethmoidal cells. Thus far the results have been satisfactory, and a report is promised at an early date.

NEW INSTRUMENTS.

The Crypto-Laryngoscope and Crypto-Rhinoscope.

Dr. Macintyre (*The Journal of Laryngology*, July, 1896), in giving a demonstration of the Röntgen rays before the British Laryngological, Rhinological and Otological Association, called attention to the importance of the X-rays in the special surgery of the larynx and the upper respiratory tract generally. This is specially the case in the detection of foreign bodies. Further, the fact that we can see and photograph different structures in the neck, localises these objects; and again, in the case of the larynx, and certainly in the case of the

esophagus, it is easy to see instruments made of certain materials (particularly of steel) during the process of removal of foreign bodies.

Secondly, in one of the photographs, the destruction of the hard tissues of the upper jaw from malignant disease may be detected. Thirdly, we have here a force capable of doing a great deal more than the penetration accomplished by the ordinary methods of illuminating the antrum of Highmore. By the development of this process, we shall very likely be able to recognize the outlines of nearly all the deep-seated structures on fluorescent screens. Some have said that the soft tissues are transparent to these rays; this is wrong, as all tissues absorb some of the rays. It is only a matter of degree.

W. S.

A Nasal Bag.

Dr. W. Freudenthal (*Medical Record*, July 11, 1896) has devised a nasal bag which he claims is of benefit in controlling epistaxis in the abortion of acute coryza.

The apparatus consists of two equal-sized rubber bags connected by a rubber septum. In the upper part of each bag there is an opening that is closed by a screw cap. In hemorrhage of the nose, the bags are filled with ice and the bag fastened over the nose by means of a band. More ice may be added by passing it through the openings in the upper part of the receptacle.

In acute coryza a small pouch for camphor, menthol, etc., is attached below the bag for continuous inhalation. The apparatus is made in three sizes, by G. Tiemann & Co.

W. S.

A New Middle Ear, Mastoid and Lachrymal Syringe.

Dr. Alfred Hinde (*Journ. Am. Med. Assn.*, Aug. 22, 1896) describes a syringe for aural work. The principle is that of the rubber-bulb dental syringe. The shaft is constructed to receive a variety of tips. The tips fit at nearly right angles to the shaft, thus giving a clear working area. There are four tips: *a*, straight; *b*, bent upward with opening at end of tube; *c*, same bend as *b*, with opening on the left side of tip (end closed); *d*, same bend as *b*, with opening on the right side of tip (end closed). The metal parts are of German silver. This instrument can be readily taken apart and sterilized.

New Snare for Post-Nasal and Intra-Nasal Surgical Operations.

J. Shadle (*Medical Record*, July 25, 1896) presents a snare of quite complicated mechanism. It contains both the ratchet and windlass principle, to facilitate either a fast or slow snaring. A protected,

curved lance for transfixing the tumor is a special feature. It is constructed with an eye to strength, has curved and straight interchangeable wire carriers, and will remove fibroids, polypi and adenoids with equal facility.

BOOK REVIEWS.

Voice Building and Tone-Producing, Showing a New Method of Relieving Injured Vocal Cords by Tone Exercises.—By. H. Holbrook Curtis, Ph.B., M.D., of New York. Small octavo, pp. 227; cloth; 60 Illustrations; photo-lithographic frontispiece. Published by D. Appleton & Co., New York, 1896. Price, \$2.00.

In this interesting, tersely-written volume the author records the results of his long experience in the examination and treatment of the throats of singers. To the laryngologist, vocal instructor and professional singer it presents suggestions of practical value in the management of the voice.

The introductory chapter, on the *Origin of Music*, is written in a popular style, and traces the history of music from the early ages to the present era. The chapters on *Anatomy and Physiology of the Larynx* and *Respiration*, which follow, are intended rather for the vocalist than for the scientist. Chapters on the *Vocal Resonators* and *Tones and Overtones* are preludes to the special feature of the volume—*Tone Placing* and *Voice Building*. A detailed description of tone exercises, to be used in overcoming serious affections of the vocal cords, is given, and a general scheme of the building of the voice on the theory of tone placing receives special prominence. The concluding chapter on *Voice Figures*, while of no practical import, is very interesting.

With the exception of special vocal exercises, no reference is made to therapeutics in the treatment of laryngeal affections. Attention is directed to the use of the laryngoscope in observing the vibratory changes of the vocal cords during singing, thereby noting any defects in their mechanism or structure. The style of the entire volume is not that of a scientific classic for the laryngologist, but rather a popular volume for the professional singer. However, the author, by his long experience with prominent singers of the highest and lowest registers, is an authority in this department of laryngology, and as such his work should take a high place in its class.

Catarrhal Diseases of the Respiratory Passages.—By J. M. G. Carter, M.A., M.O., Sc.D., Ph.D., Professor of Preventive and Clinical Medicine in the College of Physicians and Surgeons, Chicago; small 8vo.; pp. 135; cloth. Published by E. H. Colgrove & Co., Chicago. Price, \$1.00.

This little treatise, as its title suggests, is devoted to the consideration of the catarrhal diseases of the mucous membrane of the respiratory tract.

Unusual prominence is given to the ætiological factor of this group of affections; their prevalence in connection with humidity, excess of ozone, lake winds, low temperature, and electrical condition of the atmosphere. In this one respect it is a departure from other small treatises of its kind; throughout the book the author draws his deductions from personal clinical and meteorological observations. Many of these facts have been expressed from time to time in contributions to the medical journals, and are herein presented as a series for those who may study in this field.

BOOKS AND PAMPHLETS RECEIVED.

Manhattan Eye and Ear Hospital Reports. The interesting series of cases reported will receive individual consideration in our "Current Literature" columns.

The Nu Sigma Nu Fraternity. Its Mission in the Medical Profession. By John L. Irwin, Ph.C., M.D., Detroit, Mich. Reprint, *Jour. Am. Med. Ass.*, Aug. 3, 1895.

The Fate of Micro-Organisms in Inspired Air. By St. Clair Thomson, M.D., and R. T. Hewlett, M.D., London, Eng. Reprint, *The Lancet*, Jan. 11, 1896.

Diseases of the Upper Air Passages. By St. Clair Thomson, M.D., M.R.C.P., F.R.C.S. Reprint, *The Practitioner*, July, 1896.

Lane Hospital and Cooper Dispensary Clinics of San Francisco. First Annual Report. It is very gratifying to note the excellent quality and great quantity of nose, throat and ear work done on the Pacific Coast, as indicated by these reports.

Management and Treatment of Tuberculosis in Asheville Climate, with Report of Cases. By James A. Burroughs, M.D., Asheville, N. C. Reprint from the *N. C. Med. Jour.*

Memoir of the Odoriferous Sense. By J. Mount Bleyer, M.D., F.R.A.M.S., New York. Reprinted from *Journal of Ophthalmology, Otology and Rhinology*.

Announcement of the Philadelphia Polyclinic and College for Graduates in Medicine, 1896-1897. This excellent school has a department devoted to the Nose and Throat, and a department to the Ear. For further particulars address Max J. Stern, M.D., Secretary.

NEWS ITEMS.

Dr. Judson Daland

Has been appointed Professor of Diseases of the Chest in the Philadelphia Polyclinic.

Dr. Frank Whitman Ring,

Of New York, died July 16th. Dr. Ring attained eminence in his specialties, the eye and ear, practicing in New York since 1883. He was a prominent member of the staff of surgeons of the Manhattan Eye and Ear Hospital.

Dr. D. Braden Kyle and Dr. Wm. S. Jones

Have been elected Clinical Professors of Laryngology to the Jefferson Medical College, Philadelphia.

Dr. Robert Levy.

We congratulate our esteemed confrere, Dr. Robert Levy, of Denver, on his recent election as President of the Colorado State Medical Society, and we compliment the society on its choice of so active and energetic a man for its presiding officer.

PUBLISHER'S DEPARTMENT.

The Absorption of Iron Preparations.

It is a now generally accepted fact that inorganic iron preparations are practically worthless in blood therapeutics, while organic compounds exert varying effects in the ratio to their absorbability. The albuminate preparations have a certain degree of value because they supply, in loose combination, the components from which the system can compound the required form of iron—just as it is abstracted from all food. This natural form of iron, as it is found in the tissues, and particularly in the liver, where it “comprises the reserve store for blood formation” is ferratin, as substantiated by the studies of Schmiedeberg, Marfori and Filippi, and confirmed by other equally high authorities, including Prof. Chittenden, of Yale.

These investigators have proved that ferratin is present in all human organisms, that it is absorbed from animal and vegetable food, and is stored principally in the liver—“to feed the blood.” When, therefore, the physician treats his anemic patient with carefully selected diet, exercise, hygienic measures, etc., he unconsciously enlists the aid of the digestive and other organs to manufacture the required ferratin from the food ingested; this is a laborious task, because the organs are weak—and it is empirical practice, because there is too much uncertainty in trusting to the debilitated system to work its own recovery, even if useless inorganic iron preparations are added.

Schmiedeberg and Marfori having proved the identity and function of ferratin by conclusive physiological tests, which facts are now incorporated in text-books and medical literature, proceeded to duplicate natural ferratin by a synthetic process, in order to make the product available for therapeutic use; they succeeded in combining tartrate of iron with albumen by a complicated chemical process, yielding an iron albuminic acid—or *ferratin*. This product is chemically and physically identical with the natural ferratin as it can be precipitated from pigs' liver (containing the highest percentage of ferratin among animal food) or spinach (highest percentage among vegetables); and further physiological and clinical tests have proved that this product is quickly

absorbed and assimilated, supplying the requisite amount of iron to the blood without taxing the system, and increasing the appetite and quickly stimulating the vital power.

There is nothing vague about the claims for ferratin. It is a logical scientific agent, designed on careful consecutive investigations by the highest international authorities; and it has clinically redeemed every promise made for it, by increasing blood-corpuscles and hæmoglobin, improving appetite and general well-being, and markedly increasing body-weight.

Sajous' Annual for 1895 quotes the unqualified clinical tests and endorsements of ferratin of such authorities (in addition to the authors of the product, Schmiedeberg and Manfori) as German Sée, Jaquet, Banholzer, John Harold and Hugo Wiener—the foremost therapeutists of Germany, Italy, France, England and Austria. In America, ferratin has been endorsed in print by Einhorn of New York, Fackler of Cincinnati, Chittenden of New Haven, Perekhan of Chicago, Spencer of Cleveland, and verbally or in practice by hundreds of the foremost practitioners in all parts of the United States.

There are many iron compounds and blood tonics, all clamoring for preference; none has the scientific status, based on physiological investigation and proof, and endorsed on clinical records by authorities of highest rank and unquestioned sincerity, as possessed by ferratin and duly recorded in all standard text and reference books of recent issue.

A New Instrument.

The Instant Cut-Off Company of Port Huron, Mich., have recently placed a CUT-OFF on the market, which, for simplicity in construction, durability, neatness in appearance, efficiency and cheapness, has been recommended by all who have seen and used it. It can be used equally well with any kind of spray tube when fitted to the nozzle. We believe the readers of *THE LARYNGOSCOPE* who use compressed air for nose, throat and ear work, will appreciate this little instrument.

Neuroses of the Larynx.

In a "Note on Codeine," in the *Lancet*, Dr. James Braithwaite, of Leeds, says: "Codeine seems to have a special action upon the nerves of the larynx; hence it relieves a tickling cough better than any ordinary form of opium. One-half of a grain may be given half an hour before bedtime. It was in my own case that I first began to use codeine. For more than twenty years, usually once every winter, I have been seized with a spasmodic cough just before going to sleep,

which becomes so severe that I am compelled to get up and sit by the fire. After an hour or two I return to bed and am free from the cough till the next winter. In other respects I enjoy good health. Many years ago I found that one-half grain of codeine, taken about two hours before bedtime, absolutely stops the attack and leaves no unpleasant effect the next morning. In cases of vomiting from almost any cause, one-quarter grain doses of codeine usually answers exceedingly well. In the milder forms of diarrhœa one-half grain of the drug usually answers most satisfactorily, and there are no unpleasant after-effects.

We find, however, that where there is great pain, the analgesic effect of codeine may not be sufficient, and a combination with antikamnia is required. It is best given in the form of a tablet, the proportions being $4\frac{3}{4}$ grains antikamnia and $\frac{1}{4}$ grain codeine. Sometimes chronic neuroses may be cured by breaking the continuity of the pain, for which purpose we have found this combination peculiarly suited.

Clinical reports in great numbers are being received from many sections of this country, which, while verifying Dr. Braithwaite's observations as to the value of codeine, place even a more exalted value upon the advisability of always combining it with antikamnia in treatment of any neuroses of the larynx, coughs, bronchial affections, excessive vomiting, milder forms of diarrhœa, as well as chronic neuroses; the therapeutical value of both being enhanced by combination. The tablets of "Antikamnia and Codeine," containing $4\frac{3}{4}$ grains antikamnia and $\frac{1}{4}$ grain codeine, meet the indications almost universally.—*New Pharm. Products.*

THE LARYNGOSCOPE.

VOL. IV. ST. LOUIS, MO., JANUARY, 1898. No. 1.

ORIGINAL COMMUNICATIONS.

THE INUNCTION OF MERCURY IN TERTIARY SYPHILIS OF THE NOSE AND THROAT.

BY ST. CLAIR THOMSON, M.D., M.R.C.P., LONDON; F.R.C.S., ENGLAND.

Surgeon to the Royal Ear Hospital, London.

There appears to be a vague, general opinion in the profession that mercury is the correct treatment for the primary and secondary manifestations of syphilis, and iodide of potassium for the tertiary. Such was certainly the idea I gathered from my teachers, but as my recollections have been somewhat overlaid with impressions received in foreign clinics, I have quite recently made inquiries of several young surgeons and lately qualified practitioners in this country. Their replies only confirmed the persistence of the general idea to which I have given expression. Speaking generally, they recommend mercury in the first two stages of the disease, and iodides in the tertiary form. Some of them did not even suggest the administration of mercury at all in the third stage; others advised a little to be given by the mouth, either separately or in the form of biniodide of mercury—if the case did not yield to iodide alone.

On turning to the chief text books, the source of this general opinion is easily discovered, although it is not by any means distinctly

stated. In the last edition of Erichsen's well-known work* we read: "In the tertiary stage the effect of mercury is far less certain, and the state of the patient's health is frequently such as to contraindicate its administration. As a rule, it should not be given unless other means have failed, when it will sometimes be found to produce excellent effects if carefully administered."

Jonathan Hutchinson,† while considering the value of mercury unquestionable in the primary and secondary stages, evidently considers iodide of potassium the more important drug in the tertiary manifestations, although he writes as follows: "From this assertion of the efficiency of the iodide against all tertiary symptoms, it must not be assumed that mercury is not useful in them, nor even that, in many such cases, it is not the better of the two. With some, however, it certainly does not agree." He decidedly gives the preference, as a rule, to the administration of the mercury by the mouth. To this point I will have occasion to refer further on.

A later opinion of Jonathan Hutchinson, Jr.,‡ is, that while the most important drug in the treatment of the various symptoms due to tertiary syphilis is unquestionably iodide of potassium, in many cases it is advisable to give mercury as well as the iodide, and this may be done in the form of liquor hydrargyri perchloridi, of mercury and chalk pills, or by inunction.

Now, these broad indications of treatment are founded on immense experience and are, I have no doubt, true of syphilitic affections in other regions of the body. I have no experience which would be worth quoting on the matter, either one way or the other. As these authorities are agreed as to the administration of mercury in the first two stages, I need not stop to confirm their views when the nose or throat are affected during these periods. But with regard to the tertiary manifestations of syphilis in the upper air passages, I have had the opportunity of watching the frequent inefficacy of the iodide treatment, and also of the administration of mercury by the mouth—as well as the failure of these combined methods; and on the other hand, I have had evidence of the immense value of the inunction of mercury, properly administered and in suitable cases. I feel encouraged to put these experiences on record, as Fournier has drawn attention to the fact that a given manifestation of syphilis will be more amenable to one kind of treatment than to another. In illus-

**The Science and Art of Surgery*. By John Eric Erichsen. Tenth Edition, 1895, Vol. I., page 1143.

†*Syphilis*. By Jonathan Hutchinson. Cassell & Co., 1887.

‡In the *System of Surgery*, edited by Frederick Treves, Vol. I., page 419.

tration of this, he refers to slight syphilitic erosions of the tongue, desquamative glossitis, etc. These cases are very unyielding to the administration of mercury by the mouth or by inunction, but, according to Fournier, they clear up rapidly and often permanently under injections of calomel. We all know that inunction is the most effectual form of treatment for infants and pregnant women. Fournier calls this "the empirical action of certain methods in certain cases,"* because we do not as yet know the reason of it. He suggests that other indications of empiricism are not yet known; that the comparative study of different forms of treatment is only in its infancy; and that, perhaps, the treatment of syphilis has hitherto been too general. It is the hope of contributing to this empiric knowledge which impels me to enter a plea for the administration of mercury by the skin, in the tertiary syphilitic affections of the nose and throat.

Although Hutchinson† recognizes that ulceration in the throat in the intermediate and tertiary stage is a rapidly destructive condition, and that the treatment must be efficient, he only remarks that "there is usually no objection to small doses of mercury, but the iodide will generally suffice." Again (page 156) he writes: "One of the most destructive forms of phagedena is that which attacks the nose. It usually occurs as a tertiary manifestation three or more years after contagion. It may be either chronic or acute. In the more rapid cases it may destroy the septum and greatly deform the nose in a few weeks. Sometimes it involves the alæ also, or it may extend backward to the palate. The treatment should be prompt and vigorous. The nasal passages must be cleansed and liberally cauterized with acid nitrate of mercury. Iodide of potassium and ammonia must be freely given, and iodoform dusted over the surface." There is no mention of mercury. But in any case Hutchinson is evidently not strongly in favor of the administration of mercury by the skin; he "keeps the skin methods in reserve for exceptional cases, and under all ordinary circumstances administers the remedy by the mouth" (see page 51). Indeed, he goes as far as to say that "if we are allowed to estimate relative efficiency by the rate of disappearance of the phenomena, then it is probably true that the internal use of grey powder in small doses, frequently repeated, is just as useful as either inunction or fumigation." (Page 54.)

Coming from such an authority, this is undoubtedly true of syphilis in general. But in tertiary affections of the nose and throat, I

**La Semaine Medicale*, June 30, 1897.

†*Loc. cit.*, page 62.

have frequently seen the inefficacy of "Hutchinson's pills" (*i. e.*, one grain of hydrargyrum cum creta in combination with one grain of Dover's powder, if necessary).

The sequestrum of bone represented in this drawing was removed from the nose of a patient who gave the following account of himself: He contracted lues four years ago. He at once put himself under the care of a well-known syphilographer, and was treated with grey powder off and on for three and a half years. Six months after discontinuing treatment he came to me for nasal obstruction and discharge. I found a portion of the vomer had necrosed and was lying loose; it was easily removed. The patient had also a suppurating gumma on the vertex and a large node on his tibia. Under inunctions of mercury rapid improvement set in within a week. It is now a year ago and there has been no external disfigurement of the nose.



FIGURE 1.

It might quite correctly be urged that such an event could have occurred if the patient had been treated with inunctions, and while readily admitting such a possibility, I can only appeal to another class of cases. I refer to those where I have seen the hydrarg. c. creta pills prescribed, and I have had the opportunity of watching the cases not only for weeks but for months. In many instances certainly there has been improvement, but not so decided as in secondary manifestations, even although in most of the tertiary forms the pills were supplemented by the administration of iodides. In many cases the improvement had been inappreciable, and in others entirely absent. After giving the internal method a fair trial—generally a couple of months, if severe symptoms did not supervene—inunctions were ordered, in suitable conditions, and the comparative increase of progress was remarkable. That such improvement was not due simply to a change in the treatment may be conjectured from the fact that, speaking generally, in all the cases I have seen of undoubted tertiary syphilis of the nose and throat, the improvement was invariably decided and rapid when the conditions permitted the administration of mercury by the skin.

But there are other reasons for choosing this method in specific affections of the upper air passages. Speaking of the indications for treatment depending on the quality of the symptoms, Fournier

says that, roughly speaking, we may say—administration by the mouth for cases of normal syphilis, inunction for severe cases, injection for the worst types. While admitting that in some instances the tertiary affections of the throat and nose are of an average severity of type, I would call attention to the fact that, in a large majority of cases, the disease assumes a severe form. It is sufficient to recall the disfigurement which may occur in the nose; the strictures in the pharynx, and the deplorable damage left in the larynx and trachea. Tertiary syphilis in the nose is always a grave symptom, as it may be the forerunner of deeper manifestations—especially in the brain. The progress of the disease is also apt to be most insidious, sometimes making as much progress in a month as lupus will do in several years.

Even in the text books on laryngology and rhinology, the question of treatment is too often dismissed by simply saying that constitutional treatment should be carried out “on the usual lines.” McBride is one author who insists on the necessity of active constitutional treatment, and particularly on mercurial inunction.*

I should like to point out that the collapse of the bridge of the nose, resulting in the saddle-back nose, or “*nez en lorgnette*,” is not caused by the loss of the septum. In the case from which the bony sequestrum represented by Fig. 1 is taken, there is no collapse whatever, although a year has now elapsed. The bridge of the nose is not kept up by the support of the septum; if it were, collapse would always follow when this support was removed. Yet we are accustomed to see practically the entire septum removed in operative procedures without resulting collapse. The bridge, like all bridges, is maintained by the arches on either side. When falling in of the nose does occur it is due either to disease affecting these lateral arches, or else to the retraction of cicatricial tissues—much like the stenosis produced by the contraction of scar tissue in the pharynx. This constitutes one of my pleas for the administration of mercurial inunctions; for in all cases which I have been able to treat before the collapse took place, it has never ensued when the patient had been submitted to treatment by the skin—even when the case did not come under treatment in time to prevent the loss of a large part of the septum.

The portion of the upper air tract where the least satisfactory results are obtained, is, in my experience, the larynx, and, in advanced cases, the trachea. There is a type of tertiary affection of the larynx—which want of space prevents me from describing—which is

**Diseases of the Throat, Nose and Ear.* Edinburgh, 1892.

particularly inveterate. But even here I cannot help thinking that early diagnosis and treatment would readily obviate the permanent hoarseness to which these conditions give rise. Sir Felix Semon has made an eloquent appeal for a laryngoscopic examination in all cases of persistent hoarseness in any individual at, or over, middle life, so to insure the early diagnosis of possible malignant disease. I should like to urge the advisability of the same laryngoscopic examination in persistent cases of hoarseness, in order to detect the earliest sign of tertiary syphilis.

Syphilis of the upper air passages is, therefore, in the majority of instances, a severe disease, and in its treatment we must, in the words of Tissier, "*frapper vite et fort.*"* I pass quickly over the prescribing of iodide of potassium. I am accustomed to give it in all cases, and in the following combination:

R Potassii iodidigrs. v.
 Spts. ammon. aromat.℥ xv.
 Tinct. gentian co.adq. s. ℥ii.
 Ft. dosis.

This is given, well diluted, three times a day, and, if taken before meals, I find it agrees well and appears to be more effectual than even larger doses given after food. If for any reason inunctions of mercury are not ordered, or even in addition to the inunctions in severe cases, I add to the above a drachm of liquor hydrargyri perchloridi.

While in many cases this rapidly relieves the symptoms, as I have already remarked, it is on the administration of mercury by the skin that most reliance is to be placed. The only serious objection to this method of administration is the possible state of the patient's gums. Teeth which are carious, or coated with tartar, need not offer any difficulty, for they can be quickly scaled and filled; but if the gums are chronically inflamed, the inunction must be given with the greatest circumspection, for it is in this form that mercury is most apt to cause severe stomatitis. If the gums are ordinarily healthy and the teeth in good condition, I have never seen the least trouble arise in the mouth from thirty, or even forty, consecutive rubbings of a drachm of blue ointment nightly. The prescription is ordered as follows: Six drachms of unguent hydrargyri are ordered to be dispensed in six separate packets of oiled paper. The patient takes a warm bath in the evening, and, if not accustomed to free ablutions, is recommended to scrub himself liberally with soap. Then, sitting in front of a fire, if it is winter-time, one of the packets is opened

*Tissier: *Gazette des Hôpitaux*, Nos. 20 and 23, 1896.

and the drachm of ointment is patted on a part of the body in about twelve or more little dabs. With the palm of his hand the patient then steadily—not roughly—rubs the ointment until it has practically all disappeared, as it will do, leaving only a dirty stain. He is advised to take time over this, devoting at least a quarter of an hour to it. He then puts on an old suit of flannel pyjams and goes to bed. If he belongs to the class of life which can command the time and opportunity for daily warm baths, he is recommended to take one in the morning, afterwards dusting with finely powdered boracic acid the region annointed on the previous evening. On the second evening another region is selected and another drachm of ointment is used. As a routine the patient is directed to select a different region for each of the six packets; these regions are: the inside of the two thighs, the sides of the body from the ribs to the iliac crests, and the flexor surfaces of the arms. If the patient belongs to the working class, he takes a weekly warm bath on the seventh evening, and on that night no inunction. There is no therapeutic reason whatever in omitting the inunction once a week; but it gives the patient a fixed order of procedure, and an even number of regions for the inunctions. Also by ordering only enough ointment for six applications, we can insure a freshly-prepared supply once a week. This is an important point in helping to avoid irritation of the skin. Berkeley Hill recommended that the ointment be made up with lanolin, and that a drachm of olive oil be added to each ounce of it. The effects must, at first, be constantly supervised.

I have never found any necessity to interfere with the patient's diet as long as it is wholesome and nourishing. He should avoid drinking spirits, and be as abstemious as possible in the consumption of alcohol generally; and if the mouth is affected, he should give up smoking. The great necessity of attention to the mouth and teeth is strongly impressed upon him; hence he is urgently recommended to brush his teeth thoroughly, at least morning and evening, and to rinse his mouth after every meal with a chlorate of potash or some antiseptic mouth wash. The following is the gargle which is usually prescribed at Aix-la-Chapelle:

R _x Liq. alum. acet.....	100.00.
Aq. floris aurantii.....	300.00.
Aq. destill	800.00.

Although patients are generally recommended to avoid fatigue and undue exposure, especially after perspiration, as a rule they continue their ordinary avocations. I have had military officers who continued the inunctions when camping out under canvas, and

who performed their duties and declared that they felt better than they had done for months!

This brings me to one of the chief objections to this form of treatment, viz.: that it is out of the question if the disease is to be kept secret. Certainly in the cases of married men who have not confided in their wives, this objection is a serious one, and forms one of the reasons for preferring to have the treatment carried out at Aachen (Aix-la-Chapelle), Arkansas, or other sulphur springs. Still I have known patients, like the officers above quoted, who succeeded in carrying out the treatment under what would have appeared the most adverse social conditions. The objection may be met to some extent by having the inunction carried out by a professional *frotteur* at some public baths. If the rubbing is not carried out with the patient's own hand, it may be well to remark that whoever undertakes the task should have the hand protected with a rubber glove, otherwise he may suffer from mercurialism.

The duration of the treatment varies, of course, with the extent and progress of the disease and the condition of the patient. Roughly speaking, twenty-five to thirty and even forty inunctions are required. The amount used at each inunction will vary, according to the case, from 20 up to 60 grains (1 to 5 grammes). With the disappearance of the symptoms the "chronic intermittent" treatment must be prosecuted, for it is necessary not only to treat patent syphilis, but also latent syphilis. For reasons already stated, this applies particularly in the tertiary manifestations of the nose and the throat. This chronic treatment will again vary according to the amount of previous treatment, the obstinacy of the affection, the condition of the patient, etc. As a rule, I give no mercurial treatment for six months; at the expiration of that time the patient is advised to have some fifteen rubbings. At the end of another six months a second fifteen rubbings; and a third rubbing half a year later. If there has been no re-appearance of any symptoms during these eighteen months, the patient is simply put on his guard for the future as to observing any recurrence which might arise, and advised, on their appearance, to report himself. But if from the beginning of treatment the symptoms are very obstinate, or very ready to re-appear then, between one six-months' treatment and the next, the action of mercury is kept up by the administration by the mouth of a grain of pulv. hydrarg. c. creta in a pill, two, three or more times a day. The iodides are also prescribed as indicated.

Doubtless, the other method of introducing mercury through the unbroken skin—I mean by calomel fumigations—would be equally,

if not more, effectual. I have no personal experience of it, but it has long been practiced by Mr. Henry Lee, and has lately been advocated by Dr. Shaw-Mackenzie. The local disadvantages of hypodermic injections, and the lamentations of patients who have gone through the treatment, have prevented me from trying it. But in cases where the most rapid action is desirable—as in acute syphilitic œdema of the larynx—it would, no doubt, be the method to be selected. Other writers have shown how, in such cases, a threatened tracheotomy may often be avoided.

Local treatment must not, of course, be omitted. Indeed, local treatment is of the highest importance in specific affections of this region, and in a large number of cases it would prevent the deplorable results we are too apt to see. It should not be too energetic. It consists in cleanliness and antiseptics; the local use of mercurial lotions; the judicious use of escharotics, such as the acid nitrate of mercury in the strength of 1 to 8, as recommended by Ohmann-Dumesnil,* and then such surgical measures as the curette and the knife.† When the larynx is affected we are sometimes prevented from applying medicaments directly to it, owing to the tongue being painfully affected at the same time. In such cases excellent results may be obtained by a spray of perchloride of mercury (1 in 2000), or by the inhalation of the fumes of calomel from such a vaporizer as here depicted. I only touch on this side of the question in passing, and would add that in some quarters it has been as unduly exalted as it has been neglected in others. It is of great importance, but the thorough constitutional treatment is—if comparisons must be made—of even greater.

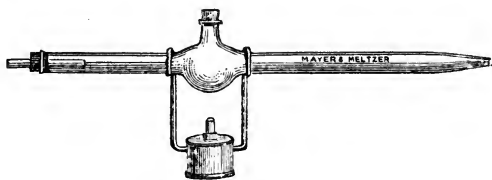


FIGURE 2. Laryngeal Fumigator, with Spirit Lamp.

From this sketch it will be seen that there is no absolutism in the treatment of syphilis of the nose and throat, any more than there is for the same disease, or in fact any disease, in any other region. One method of treatment may be recommended, without in the slightest way disparaging or neglecting any other well-tried and reliable remedy. We should bear them all in mind and be ready to

*THE LARYNGOSCOPE, October, 1896.

†Watson Cheyne: *British Medical Journal*, Nov. 27, 1897.

suit them to the case in hand, and even to vary them empirically. For slight alterations in treatment, or even modifications in the mere combinations of a prescription, will sometimes produce the happiest results in tertiary syphilis, where precisely the same drugs in some other combination had proved ineffectual.

In advancing claims for the inunction of mercury I have, therefore, no intention of neglecting such valuable resources as the administration of mercury by the mouth, the use of iodides, of tonics, of change of air, of bath treatment, etc. But I have felt that in the treatment of tertiary syphilis of the nose and throat, inefficient treatment is so often fraught with deplorable and disastrous results that we should be prepared for the most energetic action. In this I feel that a leading place should be given to inunctions of mercury.

Empyema of the Antrum in a Child Aged Eight Weeks.

An interesting case of abscess of the antrum in a child, aged eight weeks, is reported by D'Arcy Power, in the *British Medical Journal, Canadian Pract.* The child was brought to the hospital on account of an abscess which had opened and was discharging at the lower part of the right lower eyelid. The right side of the face was swollen, and the skin hot and red. Pus could be squeezed out, and on looking into the mouth, pus could be seen exuding from the alveolar border of the upper jaw. A probe passed along the sinus showed that the upper part of the superior maxilla was bare. An opening was made through the floor of the antrum, and a drainage tube passed from the eyelid into the mouth. About a drachm of thick pus came away. The child died in ten days after the operation. The history was that forceps had been used at its birth, and that both sides of the face had been badly bruised, the right more than the left. When the infant was a month old, he refused the bottle, and had difficulty in closing his mouth. About the same time, redness and swelling appeared, and eventually an abscess formed and was opened by the medical man in attendance.

Cases of antral empyema in the young are extremely rare. The writer could only find one other case reported in detail.

A CONSERVATIVE OPERATION FOR THE REMOVAL OF NASAL SYNECHIA.

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS, LA.

In applying the electro-cautery for nasal operations, if care is not taken that the opposite parts of the nostrils are not injured either by direct contact with the heated wire, or indirectly by the radiated heat, or, in septal operations, if sufficient precaution is not observed to prevent the saws and other instruments from lacerating the mucous membrane of the adjoining turbinate, a union of the opposite membranes is likely to follow, and such synechias often tax the ingenuity of the most skilled rhinologists.

Occasionally nasal synechias develop from luetic ulceration, or as the result of variola or tuberculosis, and in extremely rare instances, it may be caused by a violent catarrhal inflammation; in some cases its presence can be explained only by the supposition that it is of congenital origin. The large majority of cases, however, are due to traumatism, and are the result of the carelessness or inexperience of the operator.

The most important feature in the consideration of this condition is, of course, prophylaxis, and it is a point to be especially observed that the inexperienced should not undertake an operation within the nostril and endanger the integrity of an organ which has such an important function in moistening, warming and cleaning the air which is required for respiration. Physicians following a post-graduate course, and others who are taking their first lessons in rhinological work, should limit their attention to topical applications, examinations, etc., until they are thoroughly familiar with the anatomical peculiarities of the nasal chambers.

The most practicable method of removing a synechia will depend upon its location and the degree to which the parts are united. Where the tissues are joined simply by a fibrous band, the pressure of a probe is usually sufficient to remedy this condition; but where the synechia is more extensive, a condition presents itself which is not very difficult to correct surgically, but in which the probability of a recurrence is very great.

A number of operations have been suggested for the removal of nasal synechia. By some writers it is advised to effect the separa-

tion of the united tissues by the galvano-cautery, so that the resulting eschar will prevent the opposite granulating surfaces from reuniting. It has also been recommended, that after separating the parts by means of the knife or saw, that the raw surfaces be cauterized with pure trichloroacetic acid for the same purpose for which the electro-cautery is recommended. Those who have attempted these methods know that they are rarely successful in marked cases.

The tamponing of the nostril, after the separation has been made, with iodoform gauze, is a method extremely painful and disagreeable to the patient. It prevents breathing through the affected nostril, and, while cocaine may be applied in replacing the gauze, its removal always gives rise to much pain and irritation. As it is necessary to continue the tamponing for several days, or even weeks, and as it is absolutely necessary, in order to prevent decomposition and infection, to remove the gauze daily, it is a very disagreeable and tedious procedure and is by no means always successful. The daily passage of a sound is also painful and irritating, and is rarely effective.

Moritz Schmidt,* realizing the difficulty of correcting nasal synechia, suggests that electrolysis may be of valuable assistance in relieving this condition. Electrolysis, however, presents the same difficulty that has already been stated in referring to the galvano-cautery, and is therefore not likely to be of value in this connection.

Another method which is sometimes carried out is more likely to be successful, but lacks conservatism. In this operation, the parts which have a tendency to adhere are so fully removed by means of the knife or saw that they cannot come in contact, and therefore renders a recurrence improbable. This method is not free from danger, and, by destroying a large amount of the normal tissues of the nostril, tends to inhibit this organ in its physiological function, and may develop an atrophic condition more serious than that for which the operation was performed.

More recently it has been suggested to prevent the reunion by means of a sheet of celluloid inserted between the raw surfaces. As celluloid is non-absorbing and non-irritating, and may be left in the nostril indefinitely without causing reaction, this is, undoubtedly, an excellent innovation in the treatment of this condition.

I have used this method for several years and it has given me more satisfactory results than I had obtained before. In performing this operation, however, it is important not only to avoid hemorrhage as far as possible, but also to limit the raw surfaces of the tissues to the

*Die Krankheiten der oberen Luftwege, Berlin, 1894.

smallest area, in order to insure rapid healing and lessen the danger of recurrence. The galvano-cautery, on this account, should rarely be selected, as its use will tend to increase the area of the granulating surfaces. The knife, or where there is also a synostosis, the saw is preferable to the electro-cautery; but it is difficult with these also to limit the incisions to the parts which form the bond of union, and to prevent the cutting or laceration of the adjacent mucous membrane. The operation which I am about to describe prevents the possibility of this, and not only limits the separation of the tissues to the parts directly in contact, but also reduces hemorrhage to a minimum. I have used it in a number of cases and with uniformly good results.

It is generally conceded that, in tumors and other conditions in which it may be used, the snare is a most useful instrument. It does not, however, appear possible, at first sight, to apply this in nasal synechia, but I have always believed that, if it could be used, it would be the most practical method of correcting this condition. I have finally succeeded in doing this, and in the following manner:

A celluloid sound of the smallest diameter, such as is used with the catheter for the Eustachian tube, is bent to an acute angle one and a half inches from the end, or at other lengths, depending upon the location and size of the synechia. Although bent at this angle, the sound retains considerable resiliency, and if it be now passed into the nostril below the synechia, it is compressed in its passage, but promptly resumes its original position as soon as it passes the adhering membranes. The sound is now gently withdrawn and the end will appear in the nostril above the synechia. This end is then drawn forward by means of an alligator forceps, and a fine silk cord, which is tied to the end of the probe, is thus drawn around the synechia. A piece of steel piano-wire, such as is used for the cold snare, is then drawn by means of this cord around the synechia, the wire being bent to an acute angle, where it is attached to the silk, so as to prevent laceration of the tissues in its passage through the nostril. This wire is then attached to any one of the cold snares used for nasal operations, and, by gradually tightening the wire, the synechia is removed. Cocaine is applied before the operation, and may also be applied during the progress of the operation, in this manner rendering it entirely painless.

A small sheet of the thinnest white celluloid is then inserted into the nostril, the celluloid being cut to such a size and form that its lower edge will rest on the floor of the nostril, its upper edge reaching above the synechia, and its anterior edge very near the anterior orifice of the nose, so that, in blowing or sneezing, the celluloid will

always separate the raw surfaces. The nostril requires no further treatment, all that is necessary being that the patient should use an alkaline and antiseptic nose-wash two or three times daily.

After the first day the patient is unconscious of any foreign body in his nostril; the celluloid does not absorb septic material and gives rise to no irritation. The celluloid which I used is very thin and white, both of these specifications being for an object. If the celluloid is heavier it is more difficult to apply, and there is a greater tendency from its weight to fall into the naso-pharynx during sleep; if the celluloid is transparent it is difficult to locate it in the nostril to see if it is in its proper position. On account of its innocuous qualities the celluloid may be left in position somewhat longer than is necessary.

One case will be a sufficient illustration of the principles of this operation. Dr. G. had suffered for many years from recurrent coryza, blocking of the nostrils and irritation of the eyes, all of which he ascribed to the condition of his right nostril. He had been treated by other physicians, but had obtained no relief, and was now under the impression that he suffered even more than formerly. A rhinoscopic examination showed congestion of the right nostril, great irritability and a broad synechia between the inferior turbinate and the septum. My confrere was aware of this synechia, it being the result of an application of the electro-cautery which had been repeatedly used in his case. Attempts had been made, for several weeks, to remedy this condition by a cutting operation and the daily passage of a sound, but without success. Dr. G. appreciated the irritation that could arise from the presence of this abnormal condition, which prevented the full play of the nasal mucosa in its reaction to heat, cold, moisture and irritation, and requested me to remedy, if possible, this pathological condition of his nostril.

After stating the various operations which had been used to remedy this condition, I explained my application of the cold snare in extirpating synechia, and he requested me to apply it in his case. The method was then carried out as described above, the operation giving rise to no pain, the cocaine being sufficient to prevent this, and the bleeding was scarcely perceptible. The patient felt no reaction, and eight days after the operation the parts appeared to be completely healed. On account of his former experience with the rapid recurrence of this condition, and as the celluloid caused him no inconvenience, it was allowed to remain in the nostril for three weeks, and, when it was removed, the parts were completely healed, and no recurrence has since taken place. Five months after the operation

the patient had had no return of his catarrhal trouble, and he stated that his nose felt in a more natural condition than it had done for years before.

Medical Building.

Auto-Intoxication Resulting from Diseases of the Nose and Throat.

Wm. L. Ballenger, in *Medicine*, calls attention to Professor Guye's studies of the relation of mental disturbances and nasal obstruction.

"Guye, of Amsterdam, first called attention to a mental disturbance occurring as a result of the lymphatic obstruction in the nasal mucous membrane. In the cases he reported there was hypertrophy of the turbinated bodies, which pressed against the septum, thereby occluding the lymphatic circulation. A symptom common to all his cases was inability or difficulty in fixing attention. He called the condition 'aprosexia,' which means difficult attention. Axel Key and Retzius have shown that the lymphatics beneath the dura mater and those of the nasal mucous membrane communicate.

"Guye based his conclusions upon his clinical observation of: (a) stenosis and mental disturbances; (b) the rapid relief following the reduction of the hypertrophy; (c) the experimental work of Key and Retzius demonstrating the communication between the lymphatics of the nose and the dura mater. He described three types of aprosexia: First, physiological aprosexia, resulting from brain strain and overwork; second, neurasthenic aprosexia, in which nervous debility plays a part; third, nasal aprosexia, where the chief pathologic condition is hypertrophy of the inferior turbinated body or post-nasal adenoids. In the type denominated nasal aprosexia he claims lymphostasis with resulting absorption of the static lymph by the brain tissue; and that reduction of hypertrophies, adenoids, etc., will overcome lymphostasis and the resultant intoxication of the brain cells.

"Scanes Spencer has shown us that chronic hypertrophic rhinitis, post-nasal adenoids, etc., in children, are followed by one or more of the following symptoms: derangement of sleep, temper, spirits, energy and intellectual power. He also found that relief from the above pathologic conditions greatly improved all the foregoing symptoms. Whether the explanation is lymphostasis, venostasis, or over-accumulation of carbon dioxide, the general proposition of auto-intoxication resulting from closure of the nasal air channels can scarcely be denied."

S. S. B.

AN ANOMALOUS POSITION OF THE INTERNAL CAROTID ARTERY.

BY JOHN A. THOMPSON, M.D., CINCINNATI, OHIO.

Miss S., aged twenty-nine years, nurse, member of the German-Protestant Deaconesses Association. She consulted me for catarrhal laryngitis on December 1, 1897. The pathological condition seen, on examination, was that so familiar in hypertrophic rhinitis with secondary pharyngitis and laryngitis.

While examining the pharynx a distinct arterial pulsation could be seen on the left side, immediately behind the posterior pillar of the pharynx. The pulsating artery was evidently of large size. On palpation, only the ordinary pulse was felt. There was no expansion, as in aneurismal pulsation. Examination externally showed the internal carotid absent from its normal position on the left side. There was no history of pain in the throat, or any symptoms that would suggest aneurism. The reasonable conclusion was that we had here an anomalous position of the left internal carotid artery. The right side is apparently normal. The course of the artery in the pharynx is very superficial. It apparently lies immediately beneath the mucous membrane.

It is interesting to think what might have happened in this case if Miss S. had required an operation for adenoids when a child.

Sarcoma of the Nose.

Dr. Martuscelli reports five cases of sarcoma, all of which occurred in the course of a single year in the clinic of Prof. Massei, of Naples. (*Archiv. Ital. di Laryng.*, No. 3, 1897.) The tumors were of moderate size, most of them being attached to the turbinates by means of pedicles.

In referring to the etiology of sarcoma of the nose, the author believes that they usually result from a sarcomatous transformation of a pre-existing benign tumor. The prognosis is less grave than that of sarcomata of other regions. Relapses occur almost always,

W. S.

CONGESTION AT THE BASE OF THE TONGUE.

BY FRANK A. BOTTOME, M.D., NEW YORK CITY.

The presence of varicose veins at the base of the tongue, with or without well-marked symptoms, is recognized by several observers. Bosworth,* at the close of a chapter on "Hypertrophy of the Lingual Tonsil," says: "In this connection mention should be made of the varicose conditions of the veins at the base of the tongue, the symptoms of which to a certain extent resemble the enlargement of the lingual tonsil." * * *

Lennox Brown† gives a more detailed description of this condition, especially in reference to the causes which he states are either a vasomotor neurosis or a condition of alcoholism.

In the case of neither of these observers, nor of others whose writings I have been able to consult, has any mention been made of a condition of simple congestion of the vessels—principally the veins—occurring at this point, which condition was the cause, and, in some cases, the only cause of certain symptoms usually attributed to other conditions.

And, yet, that such is the case, I have been forced to admit, after observing and treating a number of cases in which the removal of this condition has resulted in the disappearance of the symptoms.

These symptoms are a tickling or irritation in the throat which produces a frequent, dry, irritating cough, and, in the case of singers and public speakers, a tendency to rapid tiring of the voice and hoarseness. Of course, these symptoms may be caused by conditions other than the one under consideration, but in the cases to which I shall refer the nose was normal, the naso-pharynx contained no adenoids, the tonsils were not enlarged, there was no hypertrophy of the lingual tonsil, nor were varicose veins present, and, finally, no abnormalities were found in the larynx.

At the base of the tongue, however, there was a circumscribed area of congestion. The veins were prominent, but not varicosed, and between these veins the mucus membrane was congested in marked contrast to the surrounding mucus membrane.

That the symptoms above enumerated should result from this con-

*I. Bosworth: Diseases of Nose and Throat.—Vol. II., pp. 9-201.

†II. Brown: Diseases of Throat.—IV. Edition, page 223.

dition is not surprising, nor do they require for their explanation a mechanical irritation of the epiglottis, as in the condition of hypertrophy of the lingual tonsil.

A circumscribed area of congestion at this point, with its attending condition of heat and sense of fullness, would account for the cough, and, as this cough would not only give no relief but aggravate the condition, the other symptoms, especially laryngeal, would soon follow. The cause of this condition, however, is not so easy of explanation. In looking over my cases—ten in number—I find that five occurred in those who had but recently recovered from an attack of acute bronchitis, during which the cough had been severe, attended by copious secretion from the bronchial tubes, and yet in whom, after the secretion had ceased, this dry, irritating cough had supervened and steadily increased. In these cases it is possible that the severe paroxysms of coughing, attending the bronchitis, resulted in a marked congestion at this vulnerable point, which congestion was not relieved before the next paroxysm of coughing returned, and the final result was a permanent congestion which did not subside when the bronchial cough ceased.

This line of reasoning may, at first sight, seem a little forced, and yet it must be admitted that, during a severe paroxysm of coughing, the whole head is markedly congested, and that those surface vessels which are visible often show this effect, as in the conjunctiva, where it is not uncommon for some of these vessels to rupture during such a paroxysm.

Again, we know that the veins at the base of the tongue are particularly liable to become varicosed, thus showing their vulnerability. Therefore, it would seem reasonable to suppose that such paroxysms of coughing might, in certain cases, result in this condition of congestion at the base of the tongue.

Six of the ten cases occurred in public speakers, four school teachers, two clergymen. In each of these cases the trouble dated from a particular day when the voice was used to an unusual extent, or under trying circumstances. And in these it was noted that the cough was more gradual in its development, and finally reached a state in which it became quite distressing.

While an examination at the time of its commencement would, doubtless, have shown congestion of the larynx as well as of the base of the tongue, at the time they presented themselves for treatment no such laryngeal congestion was evident, while the congestion at the base of the tongue, with its attending cough and irritation, was marked.

In these cases, doubtless, the rest from speaking allowed the laryngeal congestion to disappear, and before the congestion at the base of the tongue had subsided. This latter congestion caused a cough, slight at first, which only aggravated the congestion, and this, in turn, increased the cough.

This would explain the more gradual development of the symptoms, while the lack of laryngeal congestion at the time of the examination is not surprising, as these reflex coughs are not necessarily attended by congestion in the larynx.

As regards the treatment, internal medication will have no effect. Indeed, all kinds of cough mixtures had been tried by these patients before they were referred to me.

In the first two cases the application of nitrate of silver, fifty per cent., covering a period of several weeks, removed the condition, but the urgent need of a rapid cure in the next case led me to use the galvano-cautery, with the idea of obliterating the larger veins, as in the treatment of varicose veins. Instead, however, of touching each vein separately, I used a broad, flat electrode, and passed this rapidly over the entire congested area, without pressure.

Examination the following day showed a thick, white exudate, which, in a few days, was detached, leaving a clean, non-congested surface, and there was an entire subsidence of the symptoms. The remaining cases were treated in the same manner, with like results.

The importance of a careful examination of the base of the tongue in every case is dwelt upon by most writers. In such an examination, however, if we do not find hypertrophy of the lingual tonsil or true varicose veins, it is well to bear in mind that a milder condition—*i. e.*, a simple congestion—may be present and account for the troublesome cough, the cause of which we are seeking and have not been able to find in the nose, naso-pharynx, pharynx or larynx.

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OTOMYASTHENIA*—MUSCLE DEAFNESS.

BY THOS. F. RUMBOLD, M.D., ST. LOUIS, MO.

In the September number of THE LARYNGOSCOPE, I gave my views concerning the functions of the tensor tympani and stapedius muscles†, stating that their functions were to select and amplify such sounds as the listener desired to hear most distinctly. I have received some letters since the publication of this article asking me to give the clinical application of the deductions contained in the full paper.

In answer, I will say, in part, that with a knowledge of the functions of these ear muscles we are able to name, with a great deal of certainty, two causes of deafness that are not generally known. One of these causes is due to a paralysis agitans of these muscles, described at some length in the paper above mentioned, and the *other cause* of deafness is a debilitated condition of these ear muscles, which prevents them from selecting and amplifying sounds normally, an otomyasthenia. The fact that asthenia of the ear muscle, or muscles, is a cause of deafness is intimated in the full paper. In this paper I will add enough to enable one to easily select his cases of middle-ear muscle asthenia.

This disability is not very difficult of diagnosis, in fact the patient himself will almost invariably indicate the cause by the description of his deafness, as is plainly shown by the following, from an intelligent patient, aged fifty-eight years. He says:

"I have no difficulty in understanding you, or even in hearing my little grandson, three years old, when he is talking to me from the head of the stairs, but some persons talk in such a *mumbling* way that their words are hard to comprehend. While I am on 'Change I can't make out one word, and I have great difficulty on the cars.' If persons would speak *plainly* I could hear them very well. I can prove to you that I am not very deaf. When I go to a lecture, as soon as all are seated and the speaker gets started so as to stop all whispering, I hear him very well while I am fifty feet away from the platform. Last evening I was at a whist party; before the play commenced I could scarcely make out one word, because of the confu-

*Ear-muscle debility.

†The article was read at the Western Ophthalmological, Otological, Laryngological and Rhinological Association, April, 1897, and published in their transactions.

sion made by all (sixteen persons) talking and laughing together. How they understood one another I don't know. As soon as quiet was restored I heard those at the other end of the room who once in a while made a remark to someone at their table, and the room was, at least, twenty feet long. You see I am not very deaf, but only so under certain circumstances. There is another curious thing. While I am eating I can't distinctly hear those on the other side of the table; the noise made in my mouth while I am chewing my food is so great as to drown the words, so I have to stop eating to hear them."

In the light of what was said in the paper above referred to, it will appear plainly that his deafness is due to the inability of his ear muscle, or muscles, to select and amplify the sounds that he desires to hear, this disability being, in him, almost, if not quite, total; indeed much greater than is usually observed in this class of cases.

It should be noticed that it is only while *other noises* are being made that he complains of the *mumbling* way in which others talk. If the other noises were not present, his hearing, while it is not good, is such that he would not for an instant think of complaining. If a person with normal ears listens to the conversation of a friend, the words of others near him seem to be spoken in a *mumbling* way. In this he resembles *exactly* the disability of the man suffering from otomyasthenic deafness, for the simple reason that his ear muscle, or muscles, are not endeavoring to select and amplify the sounds of the other persons. But if this listener will turn his attention to what one of the other persons is saying, that is, selecting that one's words instead of his friend's, then instantly the words of his friend will seem as though spoken in a mumbling way. This is the daily experience of every person with normal ears.

When there is no necessity for selection and amplification, such as in the case of his grandson's voice, and in the quiet lecture room, he heard with entire satisfaction, but when he desired to hear certain selected sounds, as the words of one of the company in a room full of noisy people, and not be bothered with the undesired sounds, his ear organs were unable to perform the task. In a quiet room no one would consider this man very deaf. His statements of his ability to hear when there was no noise are ample demonstrations of this.

It is evident that this variable condition of his hearing is not due to an abnormal condition of the auditory nerve, for this nerve cannot be obtuse in a noisy room and then acute the instant the noise ceases. For the same reason it cannot be due to tinnitus of either kind. Cases of this kind very seldom suffer from muscular tinnitus; if they do, it is very weak in intensity, a significant fact. Vascular tinnitus, in

varying degrees of severity, is almost always present in these cases, but it can, obviously, cut no figure in causing variableness of hearing. This proves that this condition of the hearing is due alone to the inability of the ear muscle, or muscles, to select and amplify the desired sounds—a myasthenia.

There is another method of proving that asthenia of the middle-ear muscles is the cause of deafness than by that of the patient's history of his subjective symptoms; this is by the employment of the tick of the watch†. These patients frequently surprise the physician by the distance they can hear the metallic tick of the watch in a quiet room. This man heard the watch $\frac{20}{96}$ R. $\frac{14}{96}$ L. It varied a very little each time in the four or five tests that were made at his first visit. After getting his hearing, by slowly bringing the watch *up* to his ear until he heard it, I then slowly carried it away from his ear to ascertain if he could hear it some distance farther away, but he *could not* do so with either ear, even after quite a number of trials. This, I consider, proves conclusively that he is afflicted with complete otomyasthenia.

Many persons who could hear the watch at the distance he did, namely, $\frac{20}{96}$ R. $\frac{14}{96}$ L., can hear the ordinary conversation of a person standing alongside of them with ease in a room full of laughing and talking people, for the reason that their ear muscles select and amplify the words of the person they desire to hear. This my patient could not do, because of the asthenic condition of his ear muscles.

In every person with normal ears, and in all who are only partially otomyasthenic, the tick of the watch may be heard *farther* than it is heard when it is slowly brought up to the ears—that is to say, if he hears it when slowly brought up to the ear at 24 inches (which occurred in a partially otomyasthenic patient), the watch may be taken slowly away from the ear, and he may continue to hear it as far as to 30 or 36 inches, if the ear muscle, or muscles, are not wearied by too long a test. It seems conclusive that the increased hearing distance demonstrates that his ear muscles amplified the sound of the watch's tick or he would not have heard it beyond the first hearing distance, 24 inches.

When these ear muscle, or muscles, are in a *complete* asthenic condition the will of the listener has lost the normal control over them; but, says one, these persons can hear; yes, but they are deprived of this extra acuteness of hearing, especially in a noisy place,

†The louder the tick of the watch the more satisfactory the examination; a low tick shows so little difference that mistakes may be, and are almost certain to be made, which will not occur with the loud ticker.

when the election of sounds they desire to hear most plainly is denied them, which, with normal ears, all persons enjoy. The proof of this is that the hearing distance of the watch can not be increased even by an inch beyond the first hearing distance; it makes no difference how frequent the trials, or how slowly the watch is removed from the ear, or how much the listener exerts himself to hear it.

After making daily examinations of the hearing distance in this manner during the last five or six years, with a special view to this subject, I find that otomyasthenia, in varying degrees, is by far the most frequent cause of deafness, showing the importance of understanding its mechanism.

The following is a good method of making a differential diagnosis of this kind of deafness:

While in San Francisco this summer I chanced to step into a place where the Edison phonographs were on exhibition. I was accompanied by a physician who was under treatment for complete otomyasthenic deafness. Three of the machines were so arranged that the tubes led to one person's ears. One machine played Old Hundred, another Yankee Doodle, the third Annie Laurie. When my friend placed the ear pieces in his ears, he heard a confusion of noises. The exhibitor said, "Listen and you will hear Annie Laurie;" but he could not. "Well, can't you hear Yankee Doodle?" He could not. "Old Hundred is there too." "No, sir, nothing but a confusion of noises that would drive one crazy if he listened to it very long." He could not hear any two tunes together, but instantly called out each of the three tunes as they were played singly. I then listened to the three machines, but could bearly hear Yankee Doodle; when he stopped this machine I then heard Annie Laurie very well; when this machine stopped I heard Old Hundred; of course, proving plainly I also was affected with otomyasthenia to a considerable degree. I took the ear piece out of my right ear, and easily selected each tune with my left ear while all three machines were playing. I suffered a serious injury of my right ear in 1869, which renders me quite deaf in this ear. This accounted for my disability.

Incidentally, I will say that the subjective symptoms of otomyasthenic deafness prove that my views concerning the functions of the middle ear muscles are correct, namely: that their office is to select and amplify such sounds as the listener desires to hear most distinctly, showing that the ears have muscles of accommodation quite analogous to those of the eyes.

BILATERAL SYPHILITIC ULCERATION OF THE AURICLE,*

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

The various treatises on otology give but scant information on the subject of syphilitic affections of the external ear, and the reports of cases in medical journal literature are seldom met with.

Syphilitic involvement of the external ear in conjunction with manifestations upon other areas of the body, is of occasional occurrence, but is scarcely deemed of sufficient importance for detailed description. The various syphilitic eruptions may thus be found on the external ear, presenting any of the characteristic forms in varying severity.



Right Ear.



Left Ear.

Primary syphilis of the auricles is a rarity; the only cases of this affection reported are those of Pellizzarri¹, Hulot², Perrin et Lavergne³, Baratoux⁴, Hermet⁵, Zucker⁶ and Field⁷.

Secondary syphilis of the external ear is frequently met with, especially as an extension to this locality from areas of the face and neck.

Cases of tertiary syphilis, including tubercular syphilide and gum-

*Case reported and patient presented before the St. Louis Medical Society, Oct. 11th, 1897.

mata, have been reported by Buck ⁸, Hessler ⁹, Ravogli ¹⁰, Burnett ¹¹, Sexton ¹², Hennebert ¹³, and others.

It is not an uncommon thing to see a syphilitic involvement or ulceration extend to the ear, accompanying lesions in other parts of the body, but to find a tertiary syphilis, involving the auricle exclusively, with no other trace of a syphilitic lesion or eruption, and this ulceration existing simultaneously on *both* auricles, may easily class the accompanying case with the rarities in otology.

A careful search of the literature at my disposal has failed to reveal a similar case.

W. H., aet. twenty-five, colored, porter by occupation, presented himself at my clinic at the Beaumont Hospital Medical College, Oct. 21, 1897, for aural treatment.

About six months previously I had treated this man for a furunculosis of the right external auditory canal, which had healed nicely in four or five days.

As to the origin of the present trouble, the patient furnishes the following data: About seven weeks before applying for treatment, he had noticed several small nodular masses gradually making their appearance on the right auricle. To the touch they appeared firm and thick, and it was noticed that the nodules gradually increased in size until they were diffused over a large area of the concha and lobule, forming a confluent mass on the anterior surface of the auricle. Two weeks later similar nodules, or tubercles, were demonstrable on the left auricle. There was no itching, but patient frequently squeezed, pulled and picked at the growths. The infiltration was succeeded by softening and ulceration, and in this condition he presented himself at the clinic.

Inspection revealed a deep ulceration of the anterior surfaces of both auricles, involving lobule, concha, tragus, lower section of the helix, and extending slightly into the meatus on the right side: the left auricle presented the same clinical picture in a slightly milder form. The entire surface of the ulcers was covered with a thick, dry, dirty-brown crust, the removal of which exposed a profuse, yellow, creamy pus, of very offensive odor. After removing all scabs and crusts, three deep, well-defined, kidney-shaped ulcers, with red, bleeding surfaces, were revealed on the right side; two ulcers of a similar character on the left side.

As soon as suspicion was aroused as to the probable syphilitic origin of this trouble, the patient, after close questioning, admitted that he had had a sore on his penis some six years ago; the scar on the penis, seen on examination, corroborated this point. One year

ago he had contracted gonorrhea. Otherwise had never been sick in his life, and family history, as far as could be obtained, was good. He was closely questioned as to a possible tubercular tendency in his family, but no such history could be obtained.

A careful search was made for specific lesions or their traces in other parts of the body, but nothing could be found. Patient had never had a sore throat or nasal affection, and an extension through the Eustachian tubes was excluded by the perfectly normal appearance of the membrana tympani and perfect response to all hearing tests.

The only trouble of any kind noted was a number of carious teeth on both sides of the lower jaw. As the inferior maxillary nerve, a branch of the trifacial, is distributed to the teeth and gums of the lower jaw, and as branches of the inferior maxillary (posterior temporal and inferior auricular) supply the auricle, this area of dental caries may have been an irritating and causative factor in the appearance of the lesions on the external ear.

The absence of all other lesions and data made it a matter of some difficulty to establish the diagnosis as one of tertiary syphilis. Without a history of secondary eruption and with no lesion of any kind existing simultaneously with the ulceration of the auricles, our chain of syphilitic evidences was imperfect. The diagnosis, then, was arrived at mainly by a process of exclusion, by the appearance of the lesions on the auricles, and by the prompt response to the anti-syphilitic treatment applied.

Burnett presents an interesting and logical differential diagnosis of syphilitic ulceration of the auricle from eczema, lupus vulgaris and epithelioma.

Eczema may be excluded by the absence of any itching, by the presence of deep ulceration, and by the progressive stages in the development of the lesion.

In lupus vulgaris, we have the history of a chronic ulceration, the ulceration occurring at various points over the surface, but untended by discharge; in healing, lupus ulceration is characterized by marked cicatricial tissue.

Epithelioma is accompanied by ulceration from the outset, whereas in syphilis there is first the well-marked deposit, as in this case the tubercular syphilides, followed by breaking down and ulceration. The secretion in cancer is thin, watery, scant and of slight odor; in syphilis there is a thick, yellowish, creamy pus of very offensive smell; in cancer there is pain; in syphilis there is none, except where there is pressure by swelling and encroachment.

More conclusive even than these clinical factors, was the rapidity with which these lesions yielded to anti-syphilitic treatment.

One of the most interesting features of this case was the reduction of these deep ulcerations in two weeks' treatment with 15 drops of potassium iodide (saturated aqueous solution) administered three times daily after meals. The only other medication used was the oxide of zinc salve, spread daily over the ulcerated areas, after thorough removal of the crusts and pus.

Two weeks after this mild therapy had been introduced, no trace of the ulcerations presented in the photograph which accompanies this case, was visible, beyond the slight interlinear scarring so characteristic of syphilis.

Not even the slightest occlusion or narrowing of the meatus has taken place. A slight deformity of the helix and lobule, the result of the deep ulceration, is visible on close inspection.

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CLINICAL TESTS OF NEW REMEDIES.

BY SETH SCOTT BISHOP, B.S., M.D.

Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital, Etc.

During the last sixteen years I have improved exceptional opportunities for testing the merits of new remedies. Much of that time I have had from six to twelve clinics a week in several institutions with the co-operation of from seven to eleven personal assistants. Therefore, with an abundance of clinical material we have not lacked facilities for investigating the value of many promising medicines and methods.

It has been my custom to distribute remedies to the assistants, with the request that they give each preparation a thorough trial and report the results to me. Some remedies were found to be either inert or worse, and others of so slight value as to be discarded. In a number of instances in which new remedies were experimented with our observations established them upon a basis of indisputable worth.

Among these was found a worthy substitute for iodoform. For years we had looked upon the latter antiseptic as without a peer; and notwithstanding its toxic and noisome odoriferous properties we felt compelled to use it.

Iodol and other similar compounds were disappointing. Boric acid produces an excellent drying effect, but it was not applicable in many cases. It produced pain in a certain proportion of patients with suppurating ears, and when it was used as a dressing after mastoid operations in some instances. So we experimented with various substitutes for these remedies.

Among the new preparations tested was nosophen, an antiseptic iodine compound. I first put it to the severe, and rather unfair, test in those obstinate cases of suppuration that had resisted the older remedies. In chronic suppurative inflammation of the middle ear this experiment proved most satisfactory. For example, in the case of a girl of seven years, with middle-ear suppuration following measles nineteen months before, I had been obliged to remove a polypus, cauterize granulations springing from the drum-head, and enlarge the perforation. The old reliable medicaments had been employed assiduously: hydrozone, carbolized glycerin, the saturated solution of iodoform in alcohol, saturated solution of boric acid in alcohol,

and in powder, aristol, etc. I continued the use of hydrozone, for I employ it in all the suppurating cases, cleansed and thoroughly evacuated the middle ear by means of the ear aspirator, then dried the parts with absorbent cotton, and insufflated the nosophen with the small powder blower.

This treatment caused no pain, and the drying, cicatrizing effects of the nosophen were soon noticeable. After four weeks of irregular treatments the ear remained entirely free from discharge and the powder was allowed to stay for a week, when it was gently removed.



FIGURE 1.

The hearing returned to normal and there was no return of the discharge. It is not necessary to detail the treatments by inflation, etc., for they were the same as constitute the usual treatment in such cases. The only difference was that nosophen was substituted for the other antiseptic and siccative powders. This is a fair example of other experiences in the same disease.

Another fairly illustrative incident in my experiments was the case of a maiden lady who presented herself at my office with a history of a sore throat extending over eight months. She said her throat had been ulcerated for six weeks, and the velum palati had been perforated for one week. Examination revealed a very large hole in her soft palate, Fig. 1, and a surrounding area of reddened and moderately oedematous mucous membrane. There was a copious, purulent discharge pouring over the lower border of the perforation. The symptoms were somewhat confusing in making a differential diagnosis between cancer and syphilis. Tuberculosis was easily excluded, but there was much more oedema, pain and difficulty of deglutition than usually characterizes syphilis of the pharynx. Absolutely no history of a specific nature could be elicited. However, my impression of the syphilitic nature of the case was so strong that I placed the patient on the mixed treatment: mercury and potassium iodide.

The posterior nares were involved in the ulcerative process, and the nose, as well as the throat, was cleansed at each treatment with such antiseptic detergents, for example, as pasteurine and formolid, which are effective and agreeable washes. These two qualities are not overlooked by the progressive and successful specialist. It is just as easy to use pleasant sprays that are efficient as to use those that disgust the patient. After this thoroughly-cleansing douche, with fifteen pounds pressure, so as to effectually wash away all discharges and expose the membrane itself to the action of the curative remedy, I dusted nosophen by means of my small powder blower, with the long treatment tube, so as to cover all the diseased surface of the throat and nose.

Soon the ulcerating surface became cleaner day by day; healthy granulations formed; the angry blush, and the oedema of the surrounding tissues subsided; the difficulty of swallowing ceased; the general health improved, and in seven weeks the perforation had nearly closed with healthy tissue. The treatment was interrupted during my absence of six weeks from the city, and upon my return adhesions were seen to have formed between the posterior faucial pillars and the lateral and posterior walls of the pharynx. I proposed severing these adhesions, but as no inconvenience was suffered, the patient declined these kind offices. The perforation had completely closed, and the patient was soon discharged from treatment, except as to the continuance of the internal medication under the care of her family physician.

Before her discharge the lady was again interrogated relative to the possible cause of her trouble. She acknowledged having taken cold at

an old soldiers' picnic when she was somewhat younger than she is now. When informed that my treatment had proved her disease to be syphilitic she laughed merrily and replied: "Well, doctor, I acknowledge the corn." Being something of a wit, she called this her "confession."

I have used nosophen in mucous patches with the most satisfactory results, and in no case have any untoward effects followed its use. It appears to stimulate ulcerating bases to a healthy granulation formation, and its freedom from odor and irritating qualities are important points in its favor. At this writing I have just used it in cases following an operation for deflected septum nasi and galvano-cauterization of hypertrophied turbinals, under eucaine anæsthesia. Healing is rapid and unattended by the profuse hydrorrhœa we often see following these procedures. The astringency of this medicament probably accounts for the diminished exudation of serum and the decreased secretion of mucus. The patient passes through the ordeal with less discomfort than when the former remedies were employed.

After such operations I have substituted the nosophen gauze for that impregnated with iodoform so as to produce the continuous effect of nosophen, especially in the cutting and sawing cases that are attended and followed by hemorrhage. There is the same advantage in the employment of the gauze that there is in the use of the powder over the iodoform preparations. In nose and throat work such a remedy as this, having no odor or irritating qualities, with decided antiseptic and healing properties, possesses decided merits. It is a very light, impalpable powder, that is easily thrown in the form of a dust over the surface treated. Its color is yellowish-gray, and it contains nearly 62 per cent of iodine in combination. It is not decomposed by heat up to 220°C., and it is not soluble in water. However, it is readily soluble in alkalies, and when thrown on surfaces that have just been treated with alkaline sprays it is converted into the sodium salt, antinosine. The latter is very soluble in water, and I employ it in a 1 per cent. solution as an antiseptic detergent.

When using the antinosine spray it is advisable to show the color of it to the patient before spraying his nose or throat, else he will believe the returning fluid to be the result of a hemorrhage. A well-known specialist who was present to-day when I was spraying a patient's nasal cavities with this solution was deceived in this manner, and mistook it for an aggravated case of epistaxis. One would suppose that this solution would stain the linen, but it does no harm, for it washes out readily.

Nosophen does not act as iodoform does by liberating free iodine

as it decomposes in contact with the living tissues; but contact with the alkaline fluids of the body converts the insoluble nosophen into the soluble antinosine, and no free iodine is liberated by either to produce toxic effects. But during this gradual transformation of nosophen into antinosine, we get a continuous effect of the remedy.

If it is desirable to use an alkaline detergent spray before applying nosophen, in order that it may be converted into antinosine when it comes in contact with the diseased tissues, one may add four grains of bicarbonate of sodium to the ounce of formolid or pasteurine solution. Without this addition they have an acid reaction.

I have instanced only a few cases illustrative of our experience with nosophen and antinosine, but they are typical. I might cite the excellent effect of packing the middle ear with nosophen gauze for sup-puration and granulations, packing the nose with the same after operations for the removal of polypi, synechiæ, hypertrophies, deflections and spurs of the septum; the use of nosophen powder after removing tonsillar concretions, etc., but enough has been said to indicate the utility of these remedies in the surgery of the nose, throat and ear.

Cholesteatoma of the Middle Ear with Pyæmic Symptoms Cured by Operation.

The patient, a female, aged thirty, had suffered from a chronic suppurative, otitis media. Rigors set in, and on examination the meatus was found to be wide, almost dry, the membrane cicatricial, and above and behind, a small perforation filled with epithelial masses, through which a probe could be passed to the adetus. The mastoid was normal externally, but there was tenderness on pressure over the region of the jugular vein. The tuning fork demonstrated obstructive deafness. The temperature arose in twenty-four hours, so an operation was performed. The mastoid cortex was normal, but the bone was much thickened. A copious collection of moistened cholesteatoma and granulations were found in the antrum. Part of the bony walls of the sinus was removed, and the posterior cartilago-membranous wall was slit up as far as the concha, and the flaps were stitched into the upper and lower parts of the wound. Under antiseptic cleansing the case followed the usual course to recovery. A small patch of capillary bronchitis complicated matters, but this condition disappeared soon. The author was convinced that in this case death would have occurred from pyæmia in a short time if the operation had not been performed. He is in favor of maintaining the opening in the mastoid in such cases.—Politzer, *Journ. L. R. et O.*, Vol. xii., No. 5.

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MASTOIDECENTESIS.

With the advent of aseptic surgery, timidity in opening the mastoid cells, in cases of complicated suppurative otitis media, is a thing of the past.

Modern aurists agree that when symptoms arise which indicate the spread of the infection to the mastoid antrum or neighboring tissue, immediate drainage should be established. An abortive feature in these cases is a liberal incision through Shrapnell's membrane, midway between the short process of the malleus and the posterior periphery of the tympanic membrane. This incision should be carried into the superior wall of the canal so that a good, free blood-letting results.

The great majority of mastoid cases follow suppurative inflammation of the tympanic attic. For this reason the knife must be carried deeply into the middle chamber through the drum, so that the numerous folds of mucous membrane, which surround the ossicles and form pockets in which pus is retained, are incised. If pus does not find an exit in this manner, it eventually reaches the mastoid through the opening leading into the antrum, in the posterior wall. Consequently, this attempt at drainage must be performed rather heroically, otherwise our effort to prevent further complication will not be rewarded. There has been some controversy as to whether heat or cold should be applied to the mastoid as a preventive to the extension of the inflammation. Both are vaso-motor constrictors, but the advocates of caloric claim that cold, while it greatly adds to the patient's comfort, assists in befogging the medical attendant, by benumbing the parts, and thus excluding the important symptom, pain. This is not always the fact, as deep pressure over the affected region usually demonstrates whether or not active disease is present.

Leiter's coil is certainly a valuable agent in allaying inflammation in this region and should be promptly applied when tenderness appears over the mastoid, in cases of catarrhal or suppurative otitis. It is true, however, that same should not be continued longer than forty-eight hours. If, after this period, the parts are still tender to pressure, and swelling of the upper and posterior wall of the external auditory canal is present, with bulging of the membrana tympani, no time should be lost in palliative medication. Radical measures are then indicated, and should be promptly adopted. Temperature is by no means a criterion. Local manifestations are more important, for though the temperature may announce increasing inflammation in acute cases, the infection spreads without such an indication in chronic suppuration, and not infrequently cerebral symptoms warn us that a danger-

ous site has been involved, though no active trouble has been observed.

In opening the mastoid cells, we must bear in mind that free drainage is the result desired. Wilde's incision is obsolete and, at the present era, is not justifiable. We must always feel that the diseased tissue has been thoroughly removed, even though an extensive opening in the bone follows the operation. It is not sufficient to open into the mastoid antrum and then be satisfied with finding some pus or granulation tissue. The apex should be explored, for very often the cells in this region are diseased, and if same are not cleared, the disease may extend into the deeper structures of the neck and cause fatal complications. Necrotic foci must be searched for, and if found, the curette should be vigorously employed.

Observers who have followed this method of treatment have noticed a marked lowering of mortality in complicated cases. Procrastination has played too prominent a role in the handling of mastoid and cerebral cases. Let it be relegated to the past and so preserve the lives otherwise sacrificed to wanton vascillation.

LEDERMAN.

TESTING THE HEARING OF TELEPHONE OPERATORS.

Tests of the hearing of the "central office" employees of telephone companies are often necessary to insure prompt and accurate service, and these should be repeated as often as the errors of an individual attract the attention of employer and patron.

It has been found that quantitative tests alone are illusory since the ability of the operator to detect the *quality* of sound is often the cause of delay and confusion. In fact, the difference between two operators may be essentially a psychological one, the acuteness of hearing of each being equal, since outside of the automatic movements acquired by long practice, the mental processes of one operator may be infinitely more rapid and accurate than those of another.

As in the case of tests for color, the tests for hearing by telephone can be made by the superintendent or some other official. A simple one, where feasible, and one which tests all the mental faculties concerned, is as follows: The superintendent has his own telephone connected simultaneously with those of a number of operators, and calls out, at shorter or longer intervals between each, a written series of numbers without repetition. These the operators record on paper. Another official in the room with the operators, then gathers up the records, which are compared with the written original.

Another method is to connect the ear of an examiner possessed of good hearing, with that of the operator by means of a rubber tube. A tuning-fork of as low compass as the examiner can hear when its base is touched to the tube, is then set vibrating and its base placed against the tube half way between the ear of the examiner and that of the operator, the latter being told to raise his hand at the moment he ceases to hear the fork. This test does not exclude malignering, though when the number of seconds the sound is heard, according to the examiner, is approximately uniform through a number of repeated tests, a control is established.

Operators whose hearing is found defective by these or other tests, should of course be examined by an aurist, not only in the interests of the company, but in those of young operators who, if their hearing cannot be permanently restored, should be grateful for the information that their defect is such that they should abandon a calling for which they are unfitted, in time to learn some other in which they can excel.

EATON.

ANNOUNCEMENT.

Together with the various other preparations which have been made for the introduction of our Foreign Edition, we take special pleasure in announcing that Dr. St. Clair Thomson, of London, will manage the literary interests of *THE LARYNGOSCOPE* abroad.

Through the active and energetic efforts of our esteemed confrere, we may promise our readers a liberal representation in our original columns from our British and Continental colleagues.

All manuscript from abroad, not sent direct to our office, should be referred to Dr. St. Clair Thomson, 28 Queen Anne street, London, England.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Meeting held November 24, 1897. Joseph W. Gleitsmann, M.D.,
Chairman: T. P. Berens, M.D., Secretary.

A Case of Primary Lupus of the Larynx was presented by Dr. Emil Mayer.

This patient, whom I now present for your examination, shows his diseased condition clearly, and his recent history has verified the original diagnosis. This is one of the cases reported by me in a paper read before the American Laryngological Association in May, 1897. A brief resumé of the condition then existing is as follows:

L. F., male, aged thirty-two, presented himself for treatment during July, 1896. Family history was good and his own health had been good until one year before, when he had a single attack of hæmoptysis. From the 10th to the 23d of July he had several attacks of hemorrhage each day.

The pathological changes noted were solely in the epiglottis. There was a large ulcer in the center of the epiglottis extending over the entire laryngeal face. The edges of the ulcer are granular, covered with a grayish-white deposit, many small nodules existing on the free edge, the whole presenting a worm-eaten appearance. Its width at the upper border was about eight millimeters. In the deepest portion of the ulcerated surface there was an eroded spot presenting the appearance of the open mouth of a vessel. The mucous membrane on the upper border of the epiglottis was tumefied. No other abnormality existed in the larynx. The voice was clear and there was no dysphagia, nor did his septum show any tubercle bacillis. The question of syphilis was thoroughly gone into with negative results. His hemorrhages ceased under treatment and he passed from observation on August 5th, 1896.

Since then he has been following his regular vocation. In September, of this year, he began to cough, and an examination revealed consolidation at both apices and numerous bacilli were found under the microscope.

Dr. Mayer said: Dr. Rupp was not present, I believe, when I stated that syphilis must be absolutely excluded. In answer to Dr. Harris, he would say that primary lupus of the larynx is very rare and that but sixteen other cases have been reported. These have, however, been thoroughly gone into by men of great experience, as Chiari, Ziemssen, Rubenstein, Kafeman, Langie and others, and that the main diagnostic points in this affection were: Its preference for the epiglottis, the absence of pain, hoarseness or any symptoms referable to the larynx, and hence the accidental nature of its discovery and finally its pathological appearance. If I saw a patient with a worm-eaten appearance of the epiglottis, nodular in some parts and ulcerated in others, in whom syphilis was absolutely excluded and where bacilli were not found in abundance or absent altogether, and where, furthermore, the pulmonary physical signs showed no diseased state, I would make the clinical diagnosis of primary lupus. If subsequent inoculation test showed bacilli, or, as in the case here presented, true tuberculosis presents itself after a year of normal health, or indeed any time after, I should consider my original diagnosis verified.

In the other case, reported by myself, this question of diagnosis arose, and it may be of interest to note that this young woman who had been under observation for eighteen years, and whose affection was diagnosed as primary lupus of the larynx and pharynx by Dr. Morris J. Asch, developed a lupus eruption on the right temple after fifteen years, and after eighteen years pulmonary tuberculosis ensued, which caused her death in October, 1897. Although her pharynx and larynx were wonderfully distorted by the disease, and almost ivory-white in color, yet her throat symptoms were very few and she lived a life of energy and continued utility until six months before her death.

DISCUSSION.

Dr. Harris said that he would like to state that no word was said on what basis the diagnosis between lupus of the larynx and the tuberculous condition was made.

Specimens of salivary calculi were presented to the Section by Dr. T. P. Berens.

An abscess was incised by Dr. A. Shunk, and with the pus came this large calculus which weighs forty-nine grains. This was an unusually large one and the condition was not suspected. He did not know whether it came from the submaxillary or sublingual ducts.

A smaller one was shown which weighed but three grains. This was diagnosed, and the history covered a period of four years' sup-

puration, which was recurrent. It was found by probing and removed from the submaxillary duct.

Dr. Walter F. Chappell presented to the section a "New Tracheal Tube." There is an outer canula which extends from the cutaneous surface in the opening in the soft parts to the anterior wall of the trachea. A plate or collar surrounds the tube at a level with and rests upon the skin. The external end of this canula is furnished with a male thread. The internal canula is part tube and part wire cage work. The tubular part ceases at the anterior wall of the trachea, and the cage work passes through into the interior of the trachea. The length of the cage work will depend upon the antero-posterior diameter of the trachea. The inner end of the canula is tipped with a smooth, saucer-like cap which presents a smooth surface to the mucous membrane of the posterior wall of the trachea. To prevent this tip from pressing upon the posterior wall of the trachea the external end of the internal canula is fitted with a movable nut cut with a female thread to fit the male thread of the outer canula. By this arrangement the inner canula can be lengthened or shortened to suit the diameter of the trachea and so prevent any pressure.

Dr. Myles said that he felt special delight in having been shown this instrument, for he had always had trouble with tracheal tubes for permanent use. He had had a great deal of difficulty in having them made properly. Nancrede, he believed, gave $1\frac{1}{2}$ to $\frac{3}{4}$ inches, external diameter, as proper size for adults, but he had found eleven millimeters sufficiently large for any case.

In patients having very short necks the cricoid cartilage is near the sternum, and it is difficult to get a tube that can be worn comfortably. The speaker related an accident that happened with a tube having a lobster-tailed joint; while the nurse was washing it it fell to pieces in the bowl. If the accident had happened when the tube was in the trachea it would have killed the patient. Such possible dangers cause serious objection to the lobster-tailed jointed tubes as ordinarily made. Dr. Chappell had said that he stole all of his instruments by improving them, and he had no doubt that between them they could get a good one out of this.

The tough mucous was hard to get out without an inner canula. A decided advantage in this instrument was that the inner canula can be easily made and regulated.

In speaking of the advantage of an obturator, he referred to a case of short neck and deep trachea, where, two weeks ago, he had introduced Durham's rectangular tube; the string around the neck,

which held the canula in place, was untied, by mistake, by the nurse; the tube was coughed out, and the house surgeon had great difficulty in re-inserting the tube. The patient stated that it caused him more pain and distress than the original operation, which was done under cocaine. Failure to use the lobster-tail introducer and the partially ossified tracheal rings were the chief causes of the trouble.

Dr. Simpson thought it was useless to discuss tracheal tubes unless one had had experience with them.

He saw a child last summer in which one year previously tracheotomy had been performed for papilloma of the larynx. On examination, the larynx was found absolutely filled with papilloma. In taking out the tracheotomy tube, examination revealed an enormous mass of papillary growth around the tracheal opening and also filling up the trachea at the lower end of the tube, thus demonstrating the evil effects of tube pressure. Thyrotomy was performed and the masses removed. The child died of septic pneumonia.

Dr. Chappell closed the discussion. In the ordinary tube, unless adjusted and looked after carefully, there is a great deal of granulation tissue which springs up in the wound and is found in the end of the tube. The new tube might not be of great service in cancerous cases. In cases of recurrent papilloma there can be no doubt as to its service. The patient, in wearing the tube for a long time, especially if he be a child playing about in the winter time, is liable to get bronchitis and a great deal of granulation tissue springs up from the irritation of the tube.

With this tube allow the patient to wear a plug and breathe through the mouth, when this is possible. By endolaryngeal treatment or by alcohol get a passage through and enable him to breathe the warm air of the house. The inner canula is adjusted for each case. The inner canula can be lengthened or shortened to prevent pressure upon the posterior wall.

The Climatic Influence of Our Southwestern States on Diseases of the Respiratory Tract.

Dr. W. Freudenthal read a paper with this title. He feared that in cases of tubercular troubles of the upper respiratory tract the extraordinary results obtained by local operations and applications would make us forget constitutional measures, a very important one being climatic treatment. Solly, in his Handbook of Medical Climatology, says, "If we consider how great a sacrifice of time, money, inclination and affection is involved when an invalid, under direction of a physician, leaves his home and journeys into another, and, per-

haps, a far country, we marvel at the small amount of thought and study that is bestowed by the majority of physicians upon the science of medical climatology: for without a fair knowledge and appreciation of this, no rational selection of climate can be made."

In regard to high altitudes, which have not yet been *thoroughly* investigated, the effect is a stimulating one upon most functions of the body. Therapeutically, this effect is of an invigorating character, but there is requisite a certain power of resistance on the part of the patient to produce the best results, which is especially true of the Rocky Mountains. A patient, without this resistance, would be lost if transplanted from his comfortable New York home to an adobe house in New Mexico. In order to get well he must give up his city habits and simply take to nature. Houses there should be considered only as protection against the sun; otherwise he should sleep, dine and live in the open air.

The most important disease that we have to treat by means of climate is tuberculosis. It is his firm belief that the air in certain parts of these mountains is not only aseptic but also antiseptic. Decomposition does not occur. The more air brought in contact with the lungs the better for the patient; for not only does a drying process take place by the increased ventilation, but healing is also made possible by bringing the wounds in contact with antiseptic atmosphere; the same can be said of the larynx.

That humidity is more important by far than any other single factor seems to be the consensus of opinion among American writers, and that sea air is, as a rule, injurious for people with pulmonary tuberculosis. Dr. Freudenthal did not share the views of these writers; on the contrary, he believed that for certain forms of phthisis sea air was preferable, especially for those forms connected with atrophic or dry conditions of the upper respiratory tract. He has finally come to the conclusion that fog generally has a bad effect, while high saturation of the atmosphere without fog is often pleasant to those suffering from pharyngitis and rhinitis sicca.

He agreed with Senator that floating sanatoria would surely prove very beneficial to certain forms of tuberculosis. Von Ziemssen says that the better hygienic conditions of the mountains consisted in their lack of germs and dust, their diminished air pressure, their greater amount of ozone; also, there is less wind and draught and greater power of the sun. Von Leyden attributes the only benefit of high altitudes to their hardening the system, while Gerhardt says that in the climatic treatment of tuberculosis only pure air is essential and neither altitude nor the sea.

Here in the United States improve, however, a number of patients in the mountains, with whom the seashore did not agree, and there does exist here such a condition as erethism; this class of patients especially seem to improve in the mountains while seaside air disagrees with them.

The speaker could not understand how experienced men can send patients to a place like Davos in Switzerland for the winter where the temperature seldom rises above the freezing point. Patients there can sit on the porch and "enjoy" the "Liegekur" sometimes for ten hours a day, but he did not see the reason why they should seek a climate with artificial heat when we have the sunniest and most pleasantly warm climate in our own country.

In regard to laryngeal involvement as a complication of pulmonary tuberculosis, Solly correctly states that it is "a double disease, and, therefore, a double burden to bear." It cannot be denied that in high altitudes laryngeal tuberculosis shows the same prognosis as in low ones, viz., under proper treatment these cases can be improved or even cured.

He thought that we should collect as many statistics on laryngeal tuberculosis as possible because it has never been shown that high altitudes have a bad effect on cases of laryngeal tuberculosis, provided the patient is not exposed to either very high winds or abrupt changes in temperature or humidity.

Another great factor in the cure of laryngeal affections is rest of the diseased organs, under which the irritating cough from the throat diminishes or ceases entirely, and the chances of recovery are thereby increased.

The speaker then cited two cases of empyema of the nasal passages which improved upon removal to Arizona.

Given favorable conditions and there is no place where tuberculosis cannot develop. With the increase in factories and work-shops, together with the confinement in close quarters of large numbers of people, tuberculosis sets in without fail.

It has frequently been observed that patients who have been sent to the southern or western climate, on feeling a little improvement, return to New York as soon as spring arrives. This should not be, because the trip from these States is very trying for these patients, and for many it is injurious; and also because a person who is sent away and is not perfectly cured will soon get worse on returning to the city. For this reason the speaker endeavored to find places in that vicinity where these patients can go during the hot summer months.

To give an idea of the humidity of Arizona in comparison with that of other districts, he quoted tables from the report of Mr. E. M. Boggs, of the University of Arizona.

The speaker then described several places that he had seen, as follows: Las Vegas, Hot Springs, Santa Fé, Albuquerque, Rincon, Hatch, Colorado, Deming, Hudson Hot Springs, Silver City, Las Cruces, Organ Mountains, Van Patten's Camp, La Mesilla, El Paso, Solomonville, Safford, Tucson, Oracle, Phoenix, Flagstaff, Ogden, Salt Lake City and others.

For all classes of sufferers from diseases of the respiratory organs he prefers small places. One with 10,000 inhabitants seems to him to be too large for a health resort: 3,000 is about as much as any such a place ought to have. Still the less population a health resort has the more suitable is it. The best, therefore, is a place without any inhabitants, and of such there are plenty, and healthy ones, in the regions mentioned above. If a man lives in the fields, has to hunt his own game, and live as primitive a life as possible, he will get rid of that terrible disease which is only an affliction of civilization, viz., tuberculosis.

Dr. J. O. Tansley opened the discussion. The subject was one that was interesting to all. It was often a very difficult matter to tell a patient where to go.

He related the case of a business man who came to him for advice, after having spent some time in Bermuda, in accordance with the wishes of a prominent physician, where he could not possibly stand the atmosphere. The speaker sent him to Monticello about Christmas time, and by spring he was very much improved. To-day he is apparently a strong, hearty man.

He did not advise a greater altitude than 6,000 feet and considered 2,000 feet better. The question of moisture enters largely into the subject. He agreed with Dr. Freudenthal that high altitudes do not greatly benefit cases of pharyngitis sicca.

His wife, a sufferer from otitis, all the ossicles being gone, had given up all hope of ever having the drum heal. She took a trip from California up to Portland and through Yellowstone Park, and returned with the drum replaced in a cicatricial manner and the cavity of more normal size.

Dr. Mayer was glad to have heard Dr. Freudenthal's paper, in that it presented the views of a physician who now spoke from his own knowledge of the country. It was very important that the physician should have seen the country to which he intended sending his patients. This was forcibly impressed on the speaker's mind by

a visit made by him to a mountainous region where many hundreds of patients are sent annually. There, in very close proximity to each other, were cottages upon cottages, some even called "inns," which were the homes of many hundreds of invalids. These unfortunates were thus huddled together in rooms formerly occupied by some other invalids, perhaps in the last stages; the food was of the ordinary boarding-house variety, and no intelligent supervision was given to anything about them. It seemed to the speaker that these patients were better off at home. In directing changes of climate great care must be exercised, and it would seem to him best to advise all these patients to live in tents or single-roomed buildings which were entirely new. Here would be no possibility of reinfection, and with care tasteful food could be provided.

Dr. Myles thought that this was a subject which should be given special attention. He had found the best results in Phoenix, Arizona. In the mountains of Old and New Mexico, and in Arizona, one of the patients said that he felt as though he did not need any lungs, since the air was so pure. Some do very well in the Pan-Handle. The speaker related a number of cases showing improvement under climatic influences.

Dr. S. A. Knopf dwelt on the curative influence of the atmosphere. He thought that the atmosphere could be aseptic but not antiseptic, for if it could kill bacteria it would not be fit for a human being to live in.

The speaker did not believe in the specific cures of any climate in the majority of cases of tuberculosis. When patients go to such climates they live and work for the establishment of health. The majority of patients being poor, when they are once away from the city, are compelled to work in the open air for a living, and to this is due the improvement.

In the vicinity of New York there is an altitude of 1200 feet, and if protected from cold winds and dust we could get excellent results. It is essential that the patient should take the treatment under the constant supervision of a physician.

Dr. Gleitsmann said that he had spent the best years of his life in the study of tuberculosis. From 1875 to 1881 he treated nothing but tuberculosis and took great interest in the subject. In an article that he wrote at that time, he stated the influences at work to cure consumption and commenced the article by relating the case of a patient who had had the death warrant read to him. This man went South and returned practically cured after a year, saying that he had lived in the open air, hunting, etc., often with wet feet.

There are many different influences at work on consumption, and it is difficult to tell them just where to go. It takes large experience and sound judgment to make a proper choice of places. Some years ago a prominent dermatologist had a plan for starting a clearing house or office where experienced men could examine patients and tell them where to go. It was an ideal plan but could not be realized.

Even men with sound judgment sometimes err; it is well to verify our observations.

The question of humidity is not always understood. A point he wished to bring up was absolute humidity. In this country it is weighed in grains, in France in grammes. The absolute humidity is less in elevated places.

Cannes is a moist place. Dallas is a desirable place in some instances; but he could not agree with Dr. Freudenthal as to the advantages of sanatorium treatment. He believed in a sanatorium run on more scientific principles. In Europe they are more restricted and under surveillance of the physician.

Dr. Freudenthal closed the discussion. Dr. Tansley preferred to send patients to places 2,000 feet above the sea level. Dr. F. thought the patient could get used to higher climate very easily, but we must take into consideration the liability to hemorrhages, etc.

He had heard much of Jamaica, mentioned by Dr. Tansley, and of Curacao near by. The speaker said that he was a friend of the well-conducted sanatorium, and was of the opinion that we need more in this vicinity, because we cannot send a great many patients so far away. He thought that at least 5,000 patients should be sent away from this city every year. All were agreed that fresh air was a necessity and invalids could get this in a mild climate plentifully, where they can be out of doors all the year around.

Very favorable returns are obtained from the Adirondacks and Catskills, still the Rocky Mountains are preferable. Benefit is obtained not only from the climate but from the way of living. In poor boarding houses the food is often unfit to eat, and this is the cause of the downfall of some.

LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary meeting, Wednesday, December 8, 1897.

BUSINESS.

1. Minutes of last meeting.
2. Ballot for new members:

Frederick Walter Foxcroft, M.B., C.M.Edin., 33 Paradise street, Birmingham. Practice: Laryngology and otology. Proposed by P. M'Bride, H. Lambert Lack, St. Clair Thomson.

Charles Edward Bean, F.R.C.S.Edin., M.R.C.S.Eng., 19 Lockyer street, Plymouth. Practice: Laryngology, otology and general. Proposed by Charters Symonds, T. Mark Hovel, Scanes Spicer.

Sydney Snell, M.D., B.S..Lond., Grays, Essex. Practice: General. Proposed by H. Tilley, B. Hamilton, St. Clair Thompson.

Charles Lamplough, M.R.C.S.Eng., L.R.C.P.Lond., The Chest Hospital, Victoria Park. Practice: General. Proposed by E. Clifford Beale, W. J. Walsham, Anthony Bowlby.

Herbert Ramsay, F.R.C.S.Edin., 35A Hertford street, Mayfair, W. Practice: General. Proposed by Henry T. Butlin, W. J. Walsham, Anthony Bowlby.

3. Nomination of new members.

4. The following cases and specimens were shown:

Case 1. Dr. Jobson Horne exhibited on behalf of Dr. A. Museum, of Berlin, a series of photographs to demonstrate the position of the vocal lips in chest and head registers.

Case 2. Dr. Pegler: Case of septal lymphomata, after operation.

Case 3. Mr. Wyatt Wingrave: Microscopic sections and reports of two cases of papilloma of the tonsil.

Case 4. Mr. DeSanti: Female with extensive specific adhesions of soft palate to pharynx, with great pain in ear and deafness.

Case 5. Dr. Bond: Female on whom tracheotomy has been performed, with immobility of right cord and partial immobility of left.

Case 6. Dr. Bond: Female with tumor of the epiglottis.

Case 7. Dr. Scanes Spicer: Mucous patches on soft palate, uvula and tonsils of a child aged three.

Case 8. Dr. Scanes Spicer: Paralysis of left vocal cord and of dilator of the left pupil from pressure of enlarged glands—probably of specific origin—on left vagus and cervical sympathetic nerves.

Case 9. Dr. H. Lambert Lack: Child who has had congenital laryngeal obstruction, to show the persistent malformation.

Case 10. Dr. H. Lambert Lack: Another similar case.

Case 11. Mr. Butlin: A pressure pouch of the œsophagus.

Case 12. Mr. Waggett: Specimens of benign tumor and papillary hypertrophy of tonsils.

N.B.—Members are requested to hand to the secretaries before the termination of the meeting a short account of cases, etc., shown, or abstract of remarks made, for publication in the proceedings and journal notices.

Subscriptions for the current year 1897 may be sent to the treasurer. W. J. Walsham, Esq., 77 Harley street, W. Admission fee, one guinea. Annual subscription, one guinea.

The librarian, Dr. Dundas Grant, 8 Upper Wimpole street, W., will be glad to receive contributions for the library of the society. Books can be borrowed before the commencement of each meeting by previously writing to the librarian.

Cases for Future Meetings.—Members desiring to exhibit patients, specimens, original drawings or photographs of cases, etc., are requested, in order to insure due appearance on programme of business and in the journals, to give notice to the secretaries at least ten days before the date of meeting.

Members sending cases should supply their patients with nasal speculum and throat mirror, and if introducing visitors, should see that the latter are provided with frontal mirrors.

Members showing specimens must provide their own microscopes.

ST. CLAIR THOMSON, M.D., 28 Queen Anne street, W.

HERBERT TILLEY, M.D., 64 Welbeck street, W.

Honorable Secretaries.

N.B.—The annual meeting of the society will be held on Wednesday, January 12. It will be followed by the annual dinner at the Café Royal at a quarter to eight. Members will facilitate arrangements by intimating to the Honorable Secretaries as early as possible their intention of being present, and the number of their guests.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Severe Epistaxis.

In a recent correspondence addressed to the journal, *Am. Med. Assn.*, Dr. T. M. Baird makes the following practical suggestion: He reports the case of a patient, male, æt. twenty-six, taken with a sudden severe epistaxis. The cause of the hemorrhage was supposed to be a large polypus in the affected naris. The nose was plugged anteriorly and posteriorly with cotton and tannic acid insulated into the bleeding nostril. A few hours later there was a recurrence of the bleeding, the blood flowing into the throat. In addition to the mechanical plugging, Monsel's solution, antipyrine and other styptics were applied without success. It was finally decided to try an oil on the cotton to prevent the oozing of blood through the cotton. The plugs were removed, and new plugs, previously saturated in liquid albumine, were applied posteriorly and anteriorly and the hemorrhage completely checked. The author notes that little or no mention is made of such a technique in any of the text books. The importance of the procedure is to saturate the cotton with albumine, liquid vaseline, or any light oil, to prevent the blood from oozing through the ampion.

A Case of Menstrual Ulcer of the Nose.

The following rare and interesting case is published by Dr. H. MacN. Jones (*Edinburgh Med. Journ.*, Oct. 1897):

The patient, when first observed, had a small ulcer on inner side of right columnæ nasi. The ulcer was flat and covered with a thin brown scab. The edges were slightly raised, and a reddened area extended from the circumference. The patient stated that the condition was aggravated at every menstrual period. The nose had been affected for seven months; during the intervals between the catamenia, the inflammation subsided; recurrence with each period had lately been more severe. Patient had previously suffered with amenorrhea and erratic menstruation; the menstrual flow was still very scanty, and of short duration.

The application of chromic acid, ferri perchlor, and various other astringents, seemed to produce a healing of the nasal ulcer; with the recurrence of menstruation, however, all former symptoms reappeared in increasing severity. In this way, the ulcer deepened and spread until operative interference became necessary; three successive operations for the removal of the ulcerative, sloughing mass were undertaken to check the progress of the trouble.

After repeated applications, dressings, operations and the use of a large variety of caustics and astringents, the author began the use of salactal, a compound of hydrogen peroxide, sodium salicylate and sodium lactate. He states that it had the best effect of any local application in softening the scabs, admitting of an easy removal. Quinosal was also used as a wash, and a nasal plug was saturated with a 1-to-600 solution of it. The healing over of granulating surfaces was also hastened by the occasional application of the galvano-cautery.

The patient has fully recovered; the ulceration has entirely disappeared, not even a disfiguration of that portion of the nose remaining.

Abscess of the Nasal Septum.

A male patient, twenty-two years old, received a blow upon the nose from a fist. The following day the nose was very painful, considerably swollen, with profuse coryza. A few day later the temperature was 103.5° , pulse 106, general depression, severe headache, great pain, with extension of the inflammation and swelling to the face, causing marked deformity. Nasal respiration was impossible. Olfaction was entirely lost.

Anterior examination showed a symmetrical swelling on both sides of the cartilaginous septum. After incisions and antiseptic treatment the patient made a good recovery, without having a perforation of the septum. Bacteriological examination of the pus proved a true staphylococcus pyogenes albus infection. The author believes that septal nasal abscesses frequently consist of several different pockets or cavities.—Dr. W. H. Luckett.—*N. Y. Polyclinic Journ.*, Oct. 15, 1897.
M. D. L.

Frontal Sinusitis.

Dr. Lannois presented a patient on whom Heyden's and Luc's operations had been performed for frontal sinusitis. (*Lyon Med.*, No. 32, Aug., 1897.) This consisted in incising the eyebrow and trepanning on its internal part almost to the orbit, drainage being effected by breaking through the superior wall of the nasal fossa.

By means of this operation fungosities were found in the sinus and also two sequestras adjoining the dura mater. Drainage was continued for twelve days, this resulting in a cure. W. S.

The Trendelenburg Posture in Operations about the Nose and Throat.

The advantages claimed for this position are: that preliminary tracheotomy is usually unnecessary in the major operations; a good view of the mouth and pharynx can be obtained; the blood does not flow into the larynx or pharynx, and so greatly diminishes the danger from aspiration pneumonia on the one hand and the vomiting of swallowed blood on the other, and, furthermore, that there is less difficulty in giving the anæsthetic.—*Georgia Journ. of Med. et Surg.*, Sept., 1897. M. D. L.

Deviated Nasal Septum.

Dr. W. S. Anderson, *The Physician and Surgeon*, in discussing the subject of operative procedure in connection with deviated nasal septum, said that in studying the operations advocated by European rhinologists, it had always appeared to him that they were most formidable and much more radical than the necessities of the case always called for.

In all the cases he had seen which had been operated on by Eastern men, he had not seen one that but which showed unjustifiable mutilation, and in which the stenosis was not as bad as before operation. He was in favor of gaining space by removing thickened portions without attempting to straighten deviations.

Dr. Hickey called attention to the fact that frequently when severe exercise, as on a wheel, is taken and the peripheral circulation becomes well started, that the patient experiences a sense of relief from the discomforts of the stenosis.

The Abortive Treatment of Coryza.

Dr. Maurel, of Toulouse (*Med. Record*, Oct. 23, 1897), suggests placing small wads of iodoform cotton in the nostrils, which, from his experience, causes neither inconvenience nor irritation. Iodoformic vapors are also recommended. He claims that with this medication, the descending bronchitis, which so often follows, is prevented or reduced to a minimum. M. D. L.

Tonsillotomy and the Cautery.

Pyncheon (*Alkaloidal Clinic*, October, 1897) gives his experience in the treatment of tonsillitis. During the attacks he resorts to anti-phlogistic measures. After the inflammation disappears he removes the tonsil. He has never seen any harm result from tonsillotomy,

but much good to the voice and general health. For the removal of the small diseased tonsil of the adult, he advises extirpation by galvano-cautery dissection. but for the hyperplastic tonsil of childhood he recommends the use of the tonsillotome. S. S. B.

The Abortive Treatment of Tonsillitis.

There are a large number of patients who seem to manifest a specific predisposition to attacks of suppurative tonsillitis during the cold season of the year, and to whom the abortive treatment of the disease, therefore, becomes a subject of vital importance. For many years quinine and guaiacum were the drugs most frequently used to ward off an attack of quinsy, and to a certain extent they have maintained their prestige up to the present time. To-day, however, we have a much more agreeable and efficient way of accomplishing this, and among the drugs which have become deservedly popular are Phenacetine, salol and salophen. The administration of Phenacetine, salol or salophen, as soon as the patient experiences the premonitory symptoms of the disease, will often abort an attack, or at least prevent it from progressing to the stage of suppuration. The relief of the irritation in throat, the pain on swallowing, and soreness, observed after a few doses of these drugs, is often really remarkable and is attributable to their antiphlogistic, antiseptic and sedative effects. To assist the action of these remedies, it may also be advantageous to resort to a brisk purgative, hot baths, warm drinks and the use of a soothing and cleansing spray or gargle.—*Ex.*

A Case of Sclerosis of the Tongue of Influenzal Origin.

The middle portion of the tongue was of a wooden hardness. This condition followed an attack of influenza in a person of middle age. The pathological change involved the cheeks also. Iodide had no effect upon the disease. Another case was described, in which the tongue had assumed an atrophic and mammillated state after an attack of the same affliction.—M. Courtade. (*Journ. of L. R. et O.*, Vol. xii., No. 5.) M. D. L.

Accessory Tooth in the Nose.

Edward F. Parker (*Journal of the American Medical Association*, October 9th, 1887) reports having removed an accessory tooth from the left nasal passage of an adult, aged 28 years, who consulted him for a chronic discharge from the nose. "The tooth, evidently a canine, was firmly imbedded about midway between the anterior and posterior openings, in the mucous membrane, covering the bony floor formed by the hard palate. Its presence was a great surprise to the patient, and its removal was followed by a rapid amelioration of symptoms." S. S. B.

A Case of Empyema of the Maxillary Sinus of a Tubercular Nature—Opening by the Canine Fossa—Cure.

Dr. H. Gaudier states that a bacteriologic examination of chronic cases of maxillary sinusitis is rarely made, and it is not impossible that some of the cases which resist the most persistent treatment, and especially when there is a tendency to the formation of bony sequestra, are of tubercular origin. (*Revue Hebd. de Laryng., d' Otol. and Rhin.*, Oct. 30, 1897.

Besides the case, which is the object of this article, the author refers to four other reported cases of tuberculosis of the maxillary sinus, two of which were due to an extension from the buccal and lingual tonsils. The third was probably a case of primary tuberculosis.

(Often cases of chronic maxillary sinusitis, in which I have made microscopic examinations of the discharge, nine contained only the various pyogenic micro-organisms. In the tenth case the patient suffered from pulmonary tuberculosis, and, some months after a Cooper's operation had been done, a bacteriologic examination showed the presence of a large number of bacilli of tuberculosis in the secretion of the antrum.

Whether these existed in the antrum before the operation or whether infection took place through the alveolar opening, it is impossible to state.—W. S.)

Nephritis with Diplococci of Fraenkel and Diplococcemia Consecutive to Tonsillar Angina.

Dr. Baduel refers to four cases of nephritis consecutive to tonsillar angina and due to the localization and development of the diplococci of Fraenkel, which are found at the same time in the blood. (*Revue Hebd. de Laryng., d' Otol. and Rhin.*, Oct. 30, 1897.)

An interval of variable duration always passes between the angina and the development of the nephritis, this interval being marked by general malais, weakness, etc. In one of the cases reported, the interval was very long and quiet and the clinical syndromata led to the supposition of general typhoid infection. A bacteriologic examination, however, showed virulent streptococci of Fraenkel in the urine and blood.

W. S.

LARYNGOLOGICAL.

The Progress of Laryngology and Rhinology.

The present century had more than half run its course before laryngoscopy became a practical art. For the invention of the laryngoscope we are indebted to Signor Manuel Garcia, a distinguished Spanish singing master, long resident in London, and, happily, still living, a hale and hearty nonagenarian. His discovery was made in 1854, and in the following year he presented a paper to the Royal Society of London, entitled "Physiological Observations on the Human Voice." His investigations were all carried out on himself, and in his autoscopic examination he employed two mirrors—a small one at the end of a long stem for introducing into the pharynx, and a large one, which served both for directing the light on to the smaller mirror, and for enabling the operator to see the image formed on it. This method had been independently imagined by Garcia, but it will at once be recognized that it is precisely similar to the one employed by Babington twenty-two years previously; the latter, however, never examined his own larynx, while Garcia's observations were made on himself. So far as England was concerned, Garcia's discovery shared the same fate as Babington's; it was treated with apathy, and even with incredulity. His paper, however, fell into the hands of Dr. Türck, of Vienna, who, after some experiments, appears to have thrown the mirrors aside as useless, and to have formed the conclusion that "he was far from entertaining too sanguine hopes about the employment of the laryngeal mirror in practice." In the same year the mirrors were borrowed by Dr. Czermak, of Buda-Pesth, and he was quick to see what was wanting to complete an invention which he recognized at once as being of the greatest promise. Czermak substituted artificial light for the uncertain rays of the sun: the light was reflected and concentrated by a large ophthalmoscopic mirror; laryngeal mirrors were constructed of different sizes; and, finally, the art of laryngoscopy was perfected, and presented to the world in an article in the *Wiener Medizinische Wochenschrift*, on March 27, 1858. The difficulty of deciding the priority of this invention induced the French Academy of Science, in 1860, to divide the Prix Monthyon between the two candidates, Türck and Czermak. It is sufficient to recognize that the possibility of viewing the interior of the larynx was certainly demonstrated by Babington, in 1829, but he

failed to conceive the future of his invention. The successful attempt to view the vocal cords was independently carried out by Garcia, in 1854. An effort to apply the discovery to medical use was made by Türck, in 1857; but the perfecting of the technique, and the realization of its possibilities, must be attributed to Czermak. Indeed, in one of his earliest communications on the subject, he insisted on the fact that the invention was not only of the greatest service in diagnosis, but also in treatment. He was the first to demonstrate its use in posterior rhinoscopy, and in 1863 he detected, with the mirror, in the post-nasal space, the "growths like a cock's comb," which, five years later, were fully discovered by Meyer, of Copenhagen, and described as adenoid vegetations.—(*Brit. Med. Journ.*, June 19, 1897.) By St. Clair Thomson, M.D., of London.

A Case of Eunuchoid Voice.

Dr. G. Hudson Makuen (*Phila. Polycl.*, Oct. 28, 1897) reports the case of a young man, aged seventeen years, who had two consecutive attacks of pneumonia, the first at thirteen, the second at fourteen years of age. While convalescing from the latter attack, the larynx underwent the change which is usual at that period of life, and the voice presented a peculiar and unusual character. Instead of being a combination of the chest and falsetto tones, the chest tone was entirely absent, and in its place there was complete aphonia. The voice was a mixture of a whisper with a falsetto tone.

The patient usually began speaking in a whisper, which, by very great effort, he soon forced up into a peculiar falsetto squeak, which seemed ludicrous to those not appreciating the serious aspect of the case. At times it was with difficulty that he could make himself heard at all, and being a bright and intelligent youth the matter made him mentally miserable.

Three factors may have combined to bring about this state of affairs. An impaired physical condition, a sudden and unusual increase in the size of the larynx, and a nervous, sensitive temperament.

A regular course of breathing exercises was instituted for the development of the respiratory muscles, and all attempts at speech were forbidden. Laryngoscopic examination revealed a larynx of somewhat above the average size. The vocal cords overlapped posteriorly in the falsetto tone, and the glottis presented the elliptical shape in the aphonic condition. It was observed that during phonation there was a strong contraction of the palato-pharyngeal muscles, drawing the larynx high up into the throat. To counteract this upward movement of the larynx the tip of the left index finger was

placed on the dorsum of the tongue, well back against the anterior surface of the epiglottis and firm downward pressure applied, and at the same time the larynx was held in a fixed position externally by the right index finger placed in the groove of the upper border of the thyroid cartilage. The patient, during this fixation, was told to say "ah," which he succeeded in doing in a low chest tone for the first time in his life. After several repetitions of the tone with the larynx held in this position he was able to control it himself, and after two weeks' faithful practice he went home with a full, rich chest tone, which he used with ease, while it was with great difficulty that he could imitate his former mode of speech.

Treatment of Laryngeal Tuberculosis.

Dr. Jankenevitch recommends the application of chloride of zinc and carbolate of glycerine of a strength of one to five or one to ten, according to the nature of the case. (*Jour. de Med.*, Feb., 1897.) He advises, in addition, the regular application of an antiseptic spray.

W. S.

Cancer of the Larynx.

In his "Report on the Present Position of the Diagnosis and Treatment of Carcinoma Laryngis" before the Twelfth International Medical Congress, at Moscow, the author states that endolaryngeal operations are, from a therapeutic point of view, of extremely doubtful value, even when the disease is of small size and circumscribed. On the other hand, excision of portions of the growth for microscopical examination, in order to establish the diagnosis, is perfectly justifiable, because, as a rule, the growth of the tumor is not hastened thereby. Sometimes, however, this does occur, and one should always be prepared to carry out a radical operation as soon as the diagnosis is made.

The operations for this disease are laryngo-fissure, and partial or total extirpation of the larynx. The best results are obtained by the first method, when it is necessary to remove only a vocal or false cord. In such an instance the operation is not dangerous, and usually results in the restoration of free respiration and a good voice. The patient is not obliged to wear a tube. Experience has proven that partial or total extirpation of the larynx give a high mortality. As a rule, these operations should be performed only in intrinsic laryngeal cancers. Infiltration of glands to any extent makes the prognosis very bad. Only in the very early stages of the disease can we hope to obtain a permanent and complete cure. Consequently an early diagnosis is of the greatest importance. In non-operable cases tracheotomy should

be performed when stenosis exists, or when the obstructing growths can be removed endo-laryngeally.

In the discussion which followed the above "report," Professor Krause (Berlin) remarked that it was impossible to diagnose the disease in the very early stages by laryngoscopic examination. The only reliable method of diagnosis was the histological, and if the piece of the tumor which was to be examined was not removed from a deeply situated portion, the diagnosis might not then be correctly made. He agreed with Dr. Catti that carcinomata of the posterior wall of the larynx were seldom confined to this organ, but, as a rule, spread to it from the pharynx. He could not agree with Chiari as to the value of laryngo-fissure. The results were seldom permanent. In his fourteen cases of total extirpation, with only one death, the end of the trachea was stitched to the skin in front, and completely shutting this off from the pharynx by tampons and stitching the mucous membrane. Negative results from the microscopical examination are valueless, but a positive result should be duly considered.—Chiari. (*Journ. of L. R. et O.*, Nov., 1897.) M. D. L.

Needle in the Larynx.

One of the dangers resulting from placing foreign bodies in the mouth is vividly described in this history. While eating, a female, twenty-one years old, had put a needle in her mouth, which, when she swallowed, found its way into her larynx and became imbedded in the mucous membrane. The patient felt a stinging pain around the region of the larynx, chiefly at the right side. The author saw her a few hours after the accident. She was very nervous, but respiration was normal; no aphonia—upon examination with the mirror, a rather thick sewing needle was seen, fastened exactly sagittally in the larynx—between the anterior commissure on the one side and the cartilages arytenoidal on the other. The mucous membrane around the wounded point was red and swollen. Under cocaine anæsthesia (10 per cent.) the needle was grasped with a strongly-curved forceps with oblique action, and in order to disengage the thicker upper end, the point was pressed deeper into the tissue, and so the whole needle was removed without further unpleasantness.—Dr. H. P. Meyjes, Amsterdam. (*Journ. of L. R. et O.*, Nov., 1897.) M. D. L.

OTOLOGICAL.

Location of Sound.

Few people realize the inefficiency of the unaided human ear in locating sounds. At sea, in time of fog, this difficulty has been a serious matter, but now bids fair to be surmounted by the adoption of an ingenious instrument which has been named the eophone. This instrument consists essentially of a vane which is longitudinally concave on both sides. This vane is mounted on a vertical rod and is exposed to the open air in as unsheltered a position as possible. On either side of this vane is a sound receiver, from which a tube leads to one of the ears of an observer located in a room below. Each concave surface of the vane acts as a reflector to its own receiver and as a screen to the other. The rod carrying this vane can be rotated by means of a hand wheel, and in use the observer turns the vane round till the sound investigated is heard in one ear only. The motion is then reversed till the sound is heard in the other ear only, when the direction from which the said sound proceeds will be about midway between these two positions. By turning the wheel backward and forward, a position can rapidly be found in which the sounds received by the two ears are of equal intensity, in which case the axis of the vane points in the direction of the sound source. The disturbance which was, in the beginning, found to arise from the whistling of the wind over the edges of the vane has been eliminated by sheltering the vane by a screen of silk, which keeps off the wind without affecting the sound waves. The device in question has been installed on board the United States steamship *Indiana*, and very thoroughly tested by a committee specially appointed for the purpose. The report issued of these proceedings is of an eminently favorable character, and asserts that with signals coming at constant intervals the sound can be located with an error of certainly not more than one-eighth of a point. Many of the trials were made in thick and foggy weather, which, however, seemed to have no effect on the accuracy of the indications. The committee, however, points to the necessity of giving the receiving vane a clear sweep of the horizon, as when sheltered from the source of sound by deck houses or similar structures, the accuracy of the readings was much reduced.—*Railway and Engineering Review*.

Chief Indications for Paracentesis of the Drum Membrane.

The chief indications for paracentesis of the drum membrane, as practiced in Dr. Randall's ear clinic, are as follows:

(1) When there is great pain associated with a bulging membrane due to retained purulent secretion, and the proper drainage canal through the Eustachian tube to the nares is impervious to gentle Politzerization.

(2) When the tension of the drum membrane is high, but the bulging is slight, because the membrane has been thickened by a chronic otitis media.

(3) When there is insufficient drainage for the pus and there is danger of the extension of the inflammation to the antrum and mastoid.

(4) When the pain is excessive and unrelieved by the hot douche, and the tension of the membrane is high, paracentesis may be performed simply for relief of the pain.—*Phila. Polycl.*, Oct. 16, 1897.

Ear Complications in Scarlatina.

Cleansing of the nares and naso-pharynx may prevent extension of suppuration to the Eustachian tube with consequent otitis media and all its dangers. A good plan is to spray out the nostrils with a simple alkaline solution, and afterwards with an atomizer to spray the affected surfaces with:

Menthol, 20 grains.

Eucalyptol, 10 minims.

Paraffin fluid, to make 1 ounce.

These applications should be made every three or four hours if the discharge from the nose is abundant.—*Therapeutic Gazette*.

Acute Suppurative Otitis Media from Swallowing a Pin.

A most peculiar and interesting causative factor of acute middle-ear affection is recorded by Dr. F. Pierce Hoover, in the *N. Y. Med. Journ.*, Oct. 30, 1897:

A girl baby, æt. two years, was presented for treatment with the complaint of "a discharging left ear, which had lasted four days; previous to that time, the child suffered great pain in that ear for several days;" pain was relieved after discharge began. Pain was frequent at night, especially when reclining with affected ear on pillow. The mother stated that the child had never been sick, with the exception of a slight cold or occasional diarrhœa, but in early part of November, two months prior to consulting the author, the baby

swallowed a pin. A doctor was quickly summoned and an emetic administered, producing excessive vomiting. However, no pin was found.

Examination of affected ear showed a very small perforation just below the malleus handle, and ear discharging profusely. Treatment usual to acute suppurative otitis media was instituted. The next day a slight swelling made its appearance behind the ear; this was painful on pressure, but no pus could be determined. While drying the ear with a tuft of cotton on the end of an applicator, author noticed that cotton caught on something. With a probe, a small object in the posterior part of the drum membrane was encountered. It was decided to explore further, and after chloroforming patient to slight anaesthesia, the opening in the membrane was enlarged, and with alligator forceps a pin was extracted, *point* first. The pin was of the kind used to stick in tape or ribbon, small, about one-quarter inch long.

The author states, as his opinion, that, in some way, the pin passed into the Eustachian tube, possibly during the excessive vomiting, and worked its way to the place from which it was removed. He does not believe it was pushed through the canal into the drum, as the position of the pin, the head being inward when removed, would contra-indicate that.

Hereditary Deafness.

Lewis S. Somers (*Medicine*, October, 1897) reports several cases of impaired hearing, in an article on this subject. Three out of four children were affected, like their mother, with more or less loss of hearing, and the mother's mother "was deaf for a long time." The essayist, regarding the operation for excision of the ossicles, concludes as follows: "In a few selected cases only can ossiculotomy be recommended, and even then with no certainty of a cure; in some cases the tinnitus and impaired hearing being rendered worse. In the cases reported here, the best results were obtained by the use of the masseur, and constant attention to the general health of the patient, along with appropriate naso-pharyngeal treatment, operative interference not being done on account of the refusal of the patient's and my disbelief in its ability to do good in these particular cases."

S. S. B.

New Treatment for Deafness.

Dr. Laborde (*La Vie Scientifique*) has succeeded in making an apparatus for facilitating the treatment devised by Dr. Gellé for giving auditory exercises. The exercises were for awakening first audi-

tory sensations by repeating sounds, vowels, syllables, words and phrases, with an intensity that lessens as the hearing improves—a tiresome process difficult to have performed. Dr. Laborde devised an apparatus to move automatically by means of clock-work that would reproduce the voice with an intensity subject to regulation. It is the “Microphonographe Dussaud,” comprising (1) The repeating microphonograph and (2) the registering microphonograph.

The first consists of a horizontal cylinder run by clock-work, on which wax is spread for receiving the registration. An apparatus placed in front of the cylinder bears a membrane with a rounded style, to which is attached a little special microphone with micro-metric vise, springs and levers. An electric current is passed into the special microphone and into a receiver like that of a telephone. When the receiver is brought to the ear, the words or sounds repeated by the phonograph are heard with an intensity which can be regulated at will by increasing the number of cells. By increasing the force of the current the sounds can be made so intense as not to be endured without violent pain. It is at this point that M. Dussaud gives the receiver to the deaf of all kinds and degrees. He can make even deaf mutes keep time to music and distinguish vowels and words. Dr. Gellé claims that many ears need only education to give them hearing. Each cylinder can repeat 10,000 times what it contains without any alteration. Re-engraved, this can be repeated forty times; thus each word can be repeated 400,000 times, and there are fifty words on a cylinder. A sixty-cell current is at first needed for the worst cases. At the end of a few months one cell will complete the process where a cure is being effected. The number of cells used makes the instrument an audimeter, which measures the degree of deafness.

The second is also a horizontal cylinder moved by clock-work and covered with wax. Before it is placed a piece the shape and size of a watch, composed essentially of electromagnets, which act on a membrane commanding the style for engraving the wax. To register weak sounds a microphone of a particular system, connected with the microphonograph register by an electric current from sixty weak cells, is placed in the place corresponding to the organ to be examined. Through the current the sounds gathered by the microphone are faithfully repeated by the membrane of the microphonograph and inscribed in the wax by the style.

Dr. George Jaubert, preparatory teacher on chemistry in *l'Ecole Polytechnique*, has thus been able to register the pulsations of the heart, and to fix the variations in rhythm and intensity of its beats in walking and running, also the crises due to the emotions in artists.

The physician, through it, will be able to reproduce pathological sounds and compare them with later ones in the progress of the disease, and have them repeated as often as necessary to obtain their full value.—*Am. Med. Surg. Bull.*

A Remarkable Angioneurosis of the Tongue Due to Applications to the Ear, etc.

Though it is not a rarity to find patients complain that an application to the middle ear has caused some pain in the rhino-pharynx or some portion of the tongue, the appearance of so grave a secondary manifestation, as the one reported by the author, is most unusual. (Dr. R. Lewis, Jr. *N. Y. Med. Journ.*, Oct. 9, 1897.) A female, forty-eight years old, was being treated for a chronic suppurative otitis media, complicated by excessive granulation tissue. The woman was in average good health, with no hysterical tendency. After the third application of chromic acid the patient complained that during the following night her tongue began to swell, and that breathing for a few hours was very difficult. This condition passed away without treatment. Six months later another application of chromic acid was made to the ear, and in twelve hours after the treatment the tongue began to swell so rapidly that in two hours she could not protrude it, nor could the jaws be closed; and the swollen tissues so greatly interfered with the breathing that tracheotomy was seriously considered. Purgation with applications of leeches to neighboring parts (angle of the jaw) and the local use of ice, the swelling gradually subsided. Within seventy-four hours after the application of the acid œdema had practically disappeared. Accompanying the glossal and submaxillary œdema there were small areas of œdema over the right frontal eminence, the balls of both thumbs, the internal malleolus of one ankle joint, and under the ball of the right foot. A diagnosis of angeio-neurotic œdema was made. The author believes that this condition must have been caused by an active stimulation of the chorda tympani nerve.

M. D. L.

NEWS ITEMS.

The Philadelphia Medical Journal.

In January, 1898, the Philadelphia Medical Publishing Co. will begin the publication of a weekly medical journal. The management is entrusted to a Board of Trustees, comprised of prominent representatives of leading medical schools.

Dr. George M. Gould assumes the editorial management, a guarantee in itself of the high standard for which the journal will strive.

Free alike from the undue influence of individuals, firms or schools, our new contemporary will be a champion of independent journalism, and as such it is our pleasure to bid it a hearty welcome.

Georgia Journal of Medicine and Surgery.

Our Southern contemporary announces an increase in size. With the January issue we will be greeted by 100 pages instead of 50. We congratulate our Georgian confreres on the activity and indication of prosperity hereby displayed.

Dr. M. C. O'Toole.

San Francisco has lost an able and influential representative of laryngology and otology by the death of Dr. M. C. O'Toole. Our western friends say of him: "As a specialist for the diseases of the eye, ear, nose and throat, he climbed up to the very top notch, neglecting nothing that was new and deserving, always abreast of the times, leading instead of following, investigating, and always giving to his patients the benefit of careful skill, backed by thorough knowledge."

Dr. Chas. W. Moore.

Another of our able colleagues, one of the last of the pioneers of the Pacific coast, has passed away. Death has removed from the editor's chair of the *Pacific Record of Medicine and Surgery* the venerable and gifted Dr. Charles Warren Moore.

Removal.

Dr. George Brown, from Lownders' building to 312 Anstell building, Atlanta, Ga.

BOOKS AND PAMPHLETS RECEIVED.

The Treatment of Suppurative Diseases of the Accessory Sinuses of the Ear by Ozone Gas. By W. Schepppegrell, A. M., M. D., New Orleans. Reprint, *Jour. of Laryngology*, July, 1897.

Deformities of the Nasal Septum, Consequences and Treatment. By Randolph Brunson, M. D., Hot Springs, Ark. Reprint, *Hot Springs Med. Jour.*

Transillumination in Diseases of the Nose, Throat and Ear. By W. Schepppegrell, A. M., M. D. Reprint, *Annals O. R. and L.*, May, 1897.

Abuses and Dangers of the Nasal Douche. By L. Lichtwitz, Bordeaux, France. Reprint, *Semaine Medicale*, No. 51, Oct. 30, 1897.

Case of Mastoiditis Complicating Purulent Otitis Media, cured by enlarging the Drum Perforation and syringing the Tympanic Cavity. W. Schepppegrell, A. M., M. D. Reprint, *Texas Med. Jour.*

The Treatment of Laryngeal Tuberculosis with Cupric Interstitial Cataphoresis, with Report of Cases. The Advantages of Direct Laryngoscopy in this Method. By W. Schepppegrell, A. M., M. D. Reprint, *Med. Record*.

Benign Tumors of the Base of Tongue and Some Other Affections of a Benign Character of the Same Region.

The affections which Dr. Dubourdieu described in this article are as follows: Mycosis, papilloma, adenoma, hypertrophy of the lingual tonsil, myxoma, fibroma, lipoma, hyadid cysts, syphiloma, angioma, bloody mucous and dermoid cysts, chondroma, and mixed tumors. (*These pour le doctrat. Bordeaux, July, 1897.*) The most prominent symptoms are difficulty of deglutition, of respiration, and of phonation: cough, asthmatic dyspnea, and nausea. W. S.

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ORIGINAL COMMUNICATIONS.

TUBERCULOSIS OF THE NOSE, WITH REPORT OF A CASE OF PRIMARY TUBERCULOSIS.*

BY CLEMENT F. THEISEN, M.D.

Instructor Diseases of the Nose and Throat, Albany Medical College.

The report of a single case of any disease is not always of much value, but considering the fact that nasal tuberculosis and particularly primary tuberculosis of the nose is so rare, the following case was considered of sufficient importance to be reported rather fully.

History: G. H., aged thirty-six, a very strong, healthy man, married and having healthy children, consulted me about nineteen months ago (April, 1896,) for what he supposed to be a cold in the head. The patient had had rather a severe attack of "grip" some months before, and since that time had been conscious of more or less obstruction of the left nostril with considerable secretion. The patient's family history was of the best, no cases of tuberculosis or syphilis as far as known. The patient himself had always been exceptionally strong and well (over six feet in height and broad in proportion). He gave a history of having had a chancre some years before. The other symptoms given were so incomplete that it could not be positively determined whether he had really had syphilis or not. There

*Read before the Albany County Medical Society, December 15, 1897.

were no present indications, nothing could be discovered on examination that even remotely suggested a previous syphilis. The examination of the lungs, made also very carefully by his family physician, was negative. The other organs were apparently in a perfectly healthy state.

Absolutely nothing abnormal could be found in any part of the body. The examination of the sputum was also negative. The post. nares, pharynx and larynx, with the exception of a slight chronic pharyngitis were in excellent condition. On examining the ant. nares, the inferior turbinal and septal mucous membrane of left nostril was seen to be somewhat inflamed. There was a growth a little larger than a small cherry with an irregular surface, looking almost like a raspberry, on the cartilaginous septum. This was attached to the septum by a rather broad base, was not freely movable, and rather firm to the touch. An operation with the cold snare was advised, but the patient not desiring an operation at this time, was given a mild alkaline spray and told to present himself from time to time for examination. This he did not do; he did not come again for over a month. The tumor, which had grown a little in the interval, involving part of the cartilaginous septum anteriorly, had a marked irregular grayish-red surface and presented a small ulcer at one point.

Potassium iodide was given, running up the dose in the usual way, until quite large amounts were taken, three times a day. This was continued for several weeks with suitable local treatment. The nasal condition not only did not improve under the iodide, but indeed grew considerably worse and the tumor increased in size slightly. The discomfort from the nasal obstruction being now so great, the patient consented to an operation. Cocaine was applied and the larger part of the growth removed with a cold wire snare, the loop being tightened very slowly. There was very little bleeding. What was left of the tumor was destroyed by the electric cautery.

As a positive diagnosis could not be made, not knowing the nature of the growth, the piece removed was submitted to Dr. L. H. Neumann for examination. His report is as follows:

Albany, June 12, 1896.

The specimen submitted to me for examination is histologically a granulation growth, containing numerous tubercle bacilli.

LEO H. NEUMANN.

The tuberculous nature of the growth being now determined, vigorous local treatment was applied. The place of attachment of the tumor was cauterized, and subsequently concentrated solutions of

lactic acid (beginning with a 40 per cent and increasing to an 80 per cent solution), with iodoform insufflations, were used. The nose got entirely well, the tuberculous process did not extend farther than its original seat, and now, over a year and a half later, the man is absolutely well and presents a normal septum. I saw him last two weeks ago and he is in excellent condition in every way.

There is no doubt that lactic acid in sufficient concentration cures some localized tuberculous conditions, particularly in a place as easy to get at as the cartilaginous septum.

Snow (3) reaches this conclusion. The result of the microscopic examination would seem to prove without a question, and, of course, does prove, that we had to deal with a tuberculous tumor of the nasal septum. The clinical diagnosis is, of course, by no means easy without the aid of a microscope, and cannot be made positively. If the differential diagnosis is considered it will be seen that this is true. Beginning, malignant growths often present almost similar appearances, and it is quite possible, as Manasse (9) states, to have a true, distinct, separate syphilitic tumor, which may even be attached to the mucous membrane by a pedicle. This fact does not seem to have been recognized by most writers on the subject. Manasse reports several such cases. Microscopically, the tumors in his cases were made up of round cells, and between these traces of spindle cells. Connective tissue had already formed in places. The walls of the arteries were thickened. In the connective tissue were lighter-colored areas, in the centers of which were one or two distinct giant cells (Langhan's type). His tumors then were made up of a chronic granulation tissue with giant cells, very much like the tuberculum that develops in the nose and larynx of tuberculous individuals. As shown by Finder (16), it is sometimes almost impossible to differentiate an ordinary granulation growth from a small-celled, round-celled sarcoma.

These tuberculous tumors have best been described by Chiari (10), Hajek (11), and Panzer (12).

Right here, it must be remembered, however, that a very important point in the differential diagnosis is, that in the *syphilitic* tumors there are *never* real tubercles with cheesy centers, and Manasse *never* found in them the tubercle bacillus. The following important distinctions may be drawn:

A. "That nasal *syphilis* is always accompanied by a very severe inflammatory condition of the surrounding mucous membrane. Not so as a rule in tuberculosis.

B. "That the favorite location for specific lesions is the bony septum, and in tuberculous the cartilaginous.

C. "In syphilitic bone destruction there is most always a very offensive foctor of the purulent secretion. Rare with tuberculosis.

D. "In ulcerative nasal syphilis, as a rule, there is headache or neuralgias of trigeminus branches; usually absent in tuberculosis." (Zarniko.)

Too much dependence should not be placed on the third point, as the character of the secretion varies so much in different affections of the nose.

The formation of tumors usually speaks for tuberculosis, although it is possible, as Michelson says, to have a polypoid hyperplasia in a luetic subject.

Genuine tumor formation in nasal syphilis has apparently only been observed by Manasse and Seiler. Seiler saw it in two cases, a man of thirty-eight and a woman of twenty-eight. In the newer text-books, as that of Gerber (13), primary syphilitic affections of the nose are said to occur in the nasal tip or *alæ nasi*.

Seifert has collected twenty-seven such cases, in which in the majority the *alæ nasi*, and almost *never* the nasal septum, was involved.

The gumma is the anatomical base of tertiary nasal syphilis. This, if energetic anti-syphilitic treatment is not quickly used, usually rapidly breaks down, giving an entirely different picture from the distinct and firmer tumor of nasal tuberculosis.

The fact that this patient did not improve under iodide of potash, but even grew worse, is another argument against a syphilitic growth. Even mixed tuberculous and syphilitic local affections get better with a general syphilitic and local tuberculous treatment. The reason why uncomplicated local tuberculous affections in the nose or larynx usually get worse when iodide of potash is given, is probably because the iodide causes irritation and even inflammation of mucous surfaces, thus presenting a more favorable soil for the further development of the tuberculous process.

Finally, malignant neoplasms are often very difficult to differentiate clinically, from a condition like the one under discussion. We have also the neoplastic form of nasal tuberculosis which looks very much like an ordinary papilloma, or beginning malignant growth. Hellman reported six cases of malignant nasal tumors. Here, too, the microscope was necessary to clear up the diagnosis. The histological structure of one of Hellman's cases was like that of a bleeding septal polypus. Bleeding, as given by Dreyfuss, is an important diagnostic sign between nasal sarcoma and carcinoma. Spontaneous

hemorrhage is *rare* in carcinoma. The reason for this, as explained by Hellman, is, that in carcinoma the relatively few blood vessels lie well protected in the stroma; in sarcoma, there are many vessels and very superficial, frequently simply covered by a thin layer of epithelium.

Lupus nodules in the nose must be considered. Lupus, however, belongs in a special classification. Why the tubercle bacillus should produce a different form of the disease in lupus is not known. In the nose, lupus is perhaps almost always *secondary*. With the exception of several cases seen by Schmidt (18), few primary cases have been observed.

Taking into consideration all the above facts, I think we are justified in calling this case one of primary nasal tuberculosis, and one of the very rare primary tuberculous tumors. We have only the right to call such a growth a tuberculoma when it is made up mainly of tubercles and contains some bacilli (also Bresgen, 20). And only justified in calling a case primary tuberculosis, when an *exact* examination does not reveal tuberculosis in any other part of the body.

The nasal tuberculosis, and particularly primary nasal tuberculosis, is very rare, all authors agree. In a fairly thorough search of the literature of a number of years, I was able to find comparatively few reported cases. Chiari collected only twenty cases of true nasal tuberculosis; of course the secondary cases are far more common than the primary.

Bosworth (17) very truly states, that tuberculosis invades the nasal passages with greater rarity than any other part of the respiratory tract. Willigk found in 476 autopsies of tuberculous cases only one case in which the nose was involved; Weichselbaum found two cases in 164 autopsies; Baurowics (6) reported three cases of primary nasal tuberculosis. Two were cases of tuberculous tumors of the septum, occurring in otherwise perfectly healthy women. Tubercle bacilli were only found in one of his three cases. In Gaudier's (19) case of tuberculoma, there were tubercles, but *no* giant cells and *no* bacilli. (His was secondary.) The patient had advanced laryngeal and pulmonary tuberculosis. Sixteen cases and six of lupus have been reported from Stoerk's clinic by Koschier (1). Eleven showed tumors on the septum. Wroblewski (8) saw two cases, one a tumor on the septum, the other a tumor of the inferior turbinate. In both giant cells and bacilli. R. Sachs (21) (22) gives the histories of two cases of primary tuberculous tumors on anterior portion of cartilaginous septum, and one case in a boy of ten. Diagnosis was confirmed by microscopic examination. A case of primary nasal tuberculoma

has been reported by Polyak (23). Other cases of nasal tuberculosis have been reported by Farlow (5), Pluder (2), Herzog (7), V. Gerszewski (15), Hicquet (24), Boluminski (25), and Hill (26).

In conclusion let us consider for a moment some of the interesting features of this case. We had here a local tuberculous condition suddenly developing in a perfectly sound, strong man. Whether his attack of influenza, shortly preceding the tuberculosis, had anything to do with its development cannot, of course, be positively determined. A great many people get influenza, and with it severe attacks of acute coryza. The experiments of Straus⁴, are interesting. He examined the dust and mucus from the nasal cavities of twenty-nine persons, all in the best health, with no indications of tuberculosis. Bouillon cultures were made with this mucus. Twenty-nine guinea pigs were taken and the fluid injected into the peritoneum of each one. Seven died of septicæmia or purulent peritonitis, thirteen remained healthy; nine got tuberculous processes which plainly started in the peritoneal cavity. This simply shows that tubercle bacilli are often present in the noses of healthy persons coming in contact with tuberculous subjects, and, as a result, primary tuberculous lesions might easily develop there. The severe coryza that our patient had may have caused a slight erosion or ulcer of the septal mucous membrane, and, unfortunately for him, the tubercle bacillus *there* gained an entrance into the deeper tissues and produced this beautiful example of a tuberculous tumor.

It is a wonder that cases of primary nasal tuberculosis are not more common, as most everybody is liable to get tubercle bacilli in the nose, and investigations have shown that bacteria may penetrate into unbroken mucous surfaces, even through the epithelium (Wright). In many cases they are then destroyed by phagocytosis.

Time only will tell whether this patient will ever develop a further tuberculous condition, but for the present, at any rate, we must consider him cured.

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Ozena Treated by the Serum Method.

In this article, Dr. Compaird states that up to the present time the serum treatment is the most effective measure in ozena. (*Archiv. Lat. de Rhin., Laryng. and Otol.*) After rehearsing the various effects of this treatment and the results obtained, he states that this method is not free from inconvenience and danger. It has, however, afforded the best results, and for this reason is worthy of further trial.

SCHIEPPEGRELL.

THE USE OF OIL FOR THE DESTRUCTION OF LARVÆ IN THE NASAL CHAMBERS.

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS, LA.

The interesting articles by Drs. M. A. Goldstein, Hal. Foster and J. Steele, on larvæ in the human nostrils, published in the December number of THE LARYNGOSCOPE, calls to mind a similar case in the practice of the writer.

About two and a half years ago a patient applied who had long suffered from fetid atrophic rhinitis of a marked character, and who had developed, a few days before, severe pain in the nostrils and a fetid discharge, which, on inspection, was found to be due to the presence of larvæ of the meat-fly, *musca* (*Calliphora*) *vomitaria*. The history indicated that the eggs had been deposited while the patient was sleeping in the open air. In this connection, I would state that in many of the *muscidae*, to which genus this insect belongs, the vagina has, as a seminal receptacle or uterus, a spacious and sometimes two-lobed reservoir in which the fecundated eggs are accumulated in great numbers, and remain until the larvæ are sufficiently developed, so that these insects are really viviparous. This may account for the reaction which sometimes follows so rapidly after the first infection.

I had long realized that the majority of medicaments intended to destroy these larvæ, when found in the nasal chambers, were inefficient, as these insects are able to tolerate much stronger solutions than can be borne by the nasal mucosa. This refers not only to the various chemicals which have been advocated, but also to the application of electricity, which Voltolini (*Die Anwendung der Galvano-Kaustic*, Vienna, 1872,) advises in this condition. From his experiments on small animals, he found that the larvæ were numbed by a constant or faradic current, and were killed after its long application. He mentions a curious circumstance, that when the direct current with interruptions is applied, the larvæ begin to move about rapidly and to creep away, usually against the direction of the current. He does not find it necessary that the electrode should come in contact with the larvæ.

This method is not to be recommended on account of the fact that

the mucous membrane of the nose is very sensitive to electric excitation, and also the neighborhood of the important nerves and the brain. From personal experiments, I have found that larvæ and insects generally resist the action of currents which are quite painful to human beings.

One substance, however, which destroys by occluding the respiratory organs of the insects, and which is innocuous to the human tissues, is oil, such as sweet oil, liquid vaseline, etc., which are not referred to in the interesting articles in the December number of *THE LARYNGOSCOPE*, or in the literature of this subject. Respiration is carried on by an intricate system of tubes (pulmonary trachea) which open by pores (spiracles or stigmata) in the sides of the body. These are blocked by the free use of oil, thus causing suffocation.

In the case referred to, the oil acted with much success, glymol being used. It was first applied in the form of a continuous spray, this being successful in dislodging a considerable number of the larvæ at the first sitting. At the second sitting, it appeared that there was a number of larvæ in the upper region of the nostril, which could not well be reached, and, with a view of effecting this, the patient was placed in the horizontal dorsal position with the head hanging down, and the nostrils were then completely filled by pouring the warm oil into the nasal cavities. This method was apparently successful in destroying all the larvæ in four sittings. A week later, however, another sitting was required, which resulted in dislodging two more of the larvæ, after which there was no further evidence of these parasites.

As this method is successful in destroying the larvæ without the least irritation of the delicate structure of the nasal chambers, it should be added to the therapeutics of this subject.

Epistaxis in Typhoid Fever.

After examining a number of cases with this symptom, the author found that the origin of the bleeding was from a site one-quarter or one-third of an inch from the outer margin of the septum on one or both sides. A few moments pressure over the alæ continued will often be sufficient to arrest the bleeding.—R. W. Ewing, M. D.—(*Med. Record*, Dec. 27, 1897.)

LEDERMAN.

CHLOROFORM AS A THERAPEUTIC AGENT IN CASES OF INVASION OF THE NASAL CAVITY BY TEXAS SCREW-WORMS.

BY LE ROY DIBBLE, M.D., KANSAS CITY, MO.

In the December number of *THE LARYNGOSCOPE* three physicians report cases of Texas Screw-Worms, with their clinical experience. There seems to be quite a divergence of opinion as to the best remedial agent and its use. Having had two cases of Screw-Worm under my care in the last three years, I wish to add my clinical experience with the use of chloroform.

Case I. A. W., stockyard's employe, was sent to me August 28, 1894, with a letter stating the bearer had a bad case of catarrh or hay fever, and wished me to treat him for it. On external examination I found the nose red and swollen, the redness extending to the inner canthus of the left eye. Suspecting, from its appearance, that it was a case of specific trouble, I proceeded to make a laryngoscopic examination. To my surprise, I found the left nostril filled with wriggling maggots. I then knew that I had a case of Texas Screw-Worms to deal with.

Placing the patient on my operating chair I plugged the right nostril with cotton, compelling him to breathe through the left one. I then proceeded to administer chloroform in the usual manner. Just before he was fully under its influence I ceased to give it. After allowing him to fully recover from its effects, I took a post-nasal syringe, with warm carbolized water, and washed the nasal cavity thoroughly, following it up with peroxide of hydrogen diluted one-half and finally using it full strength. (Patient complained of latter strength.) At the first sitting there came away quite a number of worms, varying from a half to nearly three-quarters of an inch in length. The afternoon of the same day I repeated the operation, bringing away several more dead worms. The next morning I repeated the treatment, getting no more. Patient progressed well and in ten days he was entirely cured.

Case II occurred a year ago, in August. The symptoms were nearly the same, and the treatment the same, except that I used a twenty per cent solution of cocaine with a spray before giving the

chloroform, in order to reduce the congestion of the nasal mucous membrane to facilitate the use of the anæsthetic. I found in my first case it was a slow process breathing through the nostril when it was so much swollen.

Neither party complained of unusual irritation of the nostril from the inhalation of the chloroform.

I am aware that "one blue bird doesn't make spring," neither do two, and that each case is a case unto itself, and must be left to the individual judgment and experience of the physician.

In conclusion, I would say in criticism of my treatment (since reading the article of Dr. Steele, of Monterey,) that it was too radical. I think I could have got just as good results by saturating a pledget of cotton with chloroform and putting it in a test tube and directing the patient to inhale it in the infected nostril. Should I ever have another case this is the method I should use before resorting to more radical measures.

Two Cases of Lupus of the Nose Treated by the X-Rays.

Dr. Hicquet reports two cases of lupus of the nose in which the application of the cathode rays appeared to have given marked benefit. (*Revue Int. de Laryng., Rhin. and Otol.*, December, 1897.) In the first case, a youth of eighteen years, who had suffered from nasal irritation, a diagnosis of lupus could be easily demonstrated. The sittings lasted for five minutes, at first every day, but later at irregular intervals. After the twelfth sitting great improvement was noted. An abundant secretion from the nose followed each application. Eventually the nose no longer showed any trace of ulceration, and only a mild infiltration was left.

In the second case, a girl of twelve years, lupus nodules were spread over the extremity of the nose and left side of the face. The nasal cavity showed ulceration and an extensive perforation. The patient was treated by the cathode rays, and there is now a most distinct amelioration, the ulceration cicatrized and the lupus nodules are disappearing. Altogether there have been fifty sittings, each lasting five minutes. Has also applied this method in the treatment of lupus of the larynx, but thus far without appreciable effect.

(The author speaks of the X-rays and the cathode rays as if they were synonymous and not entirely distinct forms of electric energy. The X-rays are evidently intended in this article.)

SCHEPPEGRELL.

THREE CASES OF ACUTE, MILIARY TUBERCULOSIS OF THE PHARYNX.

BY GOTTLIEB KICER, M.D., COPENHAGEN, DENMARK.

The description of these cases are abbreviations from the records of the Kommune Hospital of Copenhagen.

CASE I.—Fredericka P., æt. six years. Patient was admitted to the hospital with bilateral pneumonia. Was confined to bed for four weeks. After that, respiration steadily grew worse, the patient being compelled to assume sitting posture at night to get her breath; no cyanosis; the respiration, especially the inspiration, became progressively more labored.

Examination presents to view a general redness of the fauces; the mucous membrane of the deeper areas of the pharynx and larynx appeared injected and swollen; vocal cords normal in color and size; pars subglottica laryngis altered in position, owing to infiltration of mucous membrane below; the cervical glands considerably swollen; the axillary and inguinal glands also slightly involved.

Examination with stethoscope reveals rough, bronchial inspiration, and an almost inaudible sound on expiration. Temperature, 37.5c.; pulse, 128.

Tracheotomy (inferior) was performed, and two weeks later tracheotomy (superior). Six days later the canula was removed, but as the difficulty in respiration gradually increased, intubation was undertaken, with good effect. When the tube was removed, fourteen days later, respiration was easy and free.

Three weeks later patient complained of pain in the throat and difficulty in swallowing. Inspection revealed an increased redness of the pharyngeal mucous membrane. Later considerable difficulty in nasal respiration was noted. Salt-water irrigation was ordered twice daily.

Examination of urine revealed no abnormal constituents.

Rapid emaciation ensued; night sweats frequent; lymphatics on both sides of the neck involved; nasal obstruction, notwithstanding salt-water rinsing; fauces red and swollen; mucous membrane studded with miliary tubercles. The consistency of the uvula and pillars of the fauces appeared of cartilaginous character; no pain on swallowing. Cough considerable.

A subsequent examination revealed a similar condition developing in laryngeal mucous membrane, accompanied by deep infiltration, with miliary tubercles seen on epiglottis and laryngeal mucosa.

Three weeks later ulceration was observed at many points of the infiltrated areas; the calibre of the larynx decreased; respiration labored and wheezing.

A portion of the ulcerated mass clipped from the uvula was examined microscopically, and showed typical, elementary giant-cell tubercles (Prosector, Borch).

Patient complained of headache; gradually increasing pain in the throat; swelling in fauces increased; uvula covered with a thin, grayish membrane.

Temperature, morning, varying between 37.5c.-38.c: evening, 38.9c.-39.9c.

Post-mortem examination—Right lung intensely adherent; on the surface of both lungs were found innumerable miliary tubercles; bronchial glands swollen and caseous; nothing abnormal in trachea. The interior of the larynx formed a continuous, ulcerated surface, the vocal cords and border of epiglottis being the only discernible parts. The soft palate likewise was one area of ulceration with deep infiltrations; all lymphatic glands on both sides of the neck greatly enlarged and have undergone caseous degeneration.

Spleen somewhat enlarged, surface presenting a number of large-sized tubercles. The surface of the liver likewise has undergone miliary infiltration. Examination of the intestines reveals ulceration of Peyer's patches, with strongly infiltrated and marked borders.

The mesentery glands form a conglomerate mass of cheesy consistency the size of a goose egg. On the surface of the kidneys individual tubercles were noticed. The ears were normal.

CASE II.—Rasmus L., æt. 55 years, bricklayer; sister of patient died of phthisis; son died one year ago of phthisis pulmonalis, developing a laryngeal tuberculosis shortly before his death. Patient nursed this son, occupying same room. Previous history of patient good.

When admitted to hospital he complained of painful deglutition; general debility; considerable emaciation; eats very little, owing to pain when swallowing; profuse night-sweats.

Patient is strongly built, but markedly emaciated; no fœtor ex ore. Inspection of fauces reveals greatly swollen and red mucous membrane; soft palate and uvula are the seat of numerous miliary tubercles, appearing in confluent masses at some points, and beginning ulceration.

A similar picture is presented on posterior wall of pharynx and mucous membrane of naso-pharynx. To the touch the soft palate is firm, thickened and the elasticity of the tissues destroyed.

The larynx is normal, except a slight diffuse redness and swelling of the mucous membrane. The voice is natural. The glands in the regio submaxillaris and regio lateralis colli are not swollen.

Diminished respiratory sounds heard in apex of right lung; no rales; no cough; no expectoration.

Patient hawks up an abundance of muco-pus, evidently from naso-pharynx. Microscopic examination reveals presence of tubercle bacilli.

Difficulty in swallowing gradually increased. When drinking, portion of the fluid escapes through the nose; the palata mollis increased in thickness and rigidity.

Hoarseness developed, and voice quickly became aphonic; increased pain and great difficulty in swallowing.

R	Sol. Boraci, Sat. aq.....	} aa. grm. 20
	Glycerini.....	
	Morphin. muriat.....	

M. S.—One teaspoonful in two tablespoonfuls water, two times daily. Gargle.

A 20 per cent solution of menthol was used to pencil the throat.

Difficulty in breathing soon set in; night-sweats profuse; patient weak.

No laryngeal stenosis; the vocal cords red and somewhat swollen, but rima glottidis wide and open.

As swallowing was almost impossible, both for solid and fluid food, feeding by esophageal tube was instituted.

Patient gradually declined and died.

Post-mortem examination—Both lungs strongly emphysematous, with partial adhesions to the chest walls; from apex to base there were infiltrations of miliary tubercles, varying in size from pinhead to pea; no cavities. In both apices were found fibrous, slaty indurations.

The mucous membrane of trachea, larynx and pharynx, was in greater part ulcerated. The ulcerations were varying in depth, and were spread over both tonsils and soft palate.

In the trachea a large area of cartilage was found stripped of soft tissues and exposed.

Spleen greatly swollen, the surface studded with pinhead-sized tu-

bercles; the cut surface grayish-red, of soft consistency, containing many larger tubercles.

Liver normal in size, with irregular thickening of capsule.

The kidneys large, capsule easily removed and contained tubercles, scattered here and there. In the cæcum a single tubercular ulceration was found; arterial sclerosis noted.

No other lesions recorded.

CASE III.—Carl W., aet. twenty-three years, fisherman; mother died of pulmonary trouble; father living and healthy.

When sixteen years old, patient had a pulmonary hemorrhage, following a bad cough. At no other time was there a recurrence of blood in sputum, nor has there been much cough.

Emaciated rapidly during past two months; night-sweats noticed. Patient complained of a sharp, cutting pain, accompanying swallowing of solid food; bowels regular; urine normal. No syphilitic invasion.

Temperature, 37.8 c.; pulse, 80.

Patient powerfully built, but emaciated; cervical lymphatics swollen. The palate was red, and the seat of miliary infiltrations, partly ulcerating; similar picture presented on lateral walls of pharynx; on left tonsil appeared irregular-shaped ulcer about two cm. in diameter, with surrounding infiltrated areas; this was especially marked between uvula and right palatal arch, the pendant portion of uvula being forced to left side. Larynx normal; voice natural. No indication of syphilis.

Auscultation of lungs negative; only a few slight rales over left clavicular and left suprascapular region; single rales heard over left apex.

Microscopical examination revealed presence of tubercle bacilli in sputum.

Laryngoscopy one week later reveals: Epiglottis much infiltrated and entire mucous membrane of larynx and the ary-epiglottic ligament involved in similar manner; no other lesions in larynx noted.

Milk diet prescribed; ten per cent solution menthol for penciling throat. Pain on swallowing at this stage considerably diminished; appetite good.

Three weeks later patient again complained of pain on swallowing; slight hoarseness. Ulcerations in pharynx unchanged. Prescribed penciling with fifty per cent solution lactic acid.

One month later all previous conditions had become aggravated. The difficulty in swallowing almost prevented his taking food per os.; difficulty in breathing also set in. Frequent rigors occurred at

this stage. The infiltration of larynx and pharynx grew steadily worse; the ulcerations were apparently increasing in depth as well as breadth; the uvula, both palatal arches and posterior wall of pharynx presented one ulcerated mass; the ulceration also involved the soft and hard palate in a similar miliary infiltration.

Stethoscopy indicated diminished respiratory sounds over right clavicular region, extending to second costa; fine crackling rales at end of inspiration; some cavernous breathing and vesicular murmurs over left clavicle; additional physical examination indicated marked pulmonary infiltration.

For relief of painful deglutition, prescribed frequent penciling of throat with four per cent solution cocaine.

One month later rapid involvement of lungs was plainly demonstrable by physical examination. Pulmonary œdema had also developed.

Post-mortem examination not obtained.

Tuberculosis of the pharynx is a very rare condition; much rarer than would be supposed, considering the frequent exposure of the throat to infection. The bacilli are not given opportunity to lodge there, however, but are taken deeper into the respiratory and alimentary tract with food and saliva. The crypts of the tonsils, however, furnish a convenient resting place for the tubercle bacilli, and here they may often be demonstrated in phthisical patients. The resistance offered by the normal mucous membrane, however, is so great that infection is frequently supposed to be overcome thereby¹.

The pharynx is less frequently involved in primary tuberculosis than the larynx, but more frequently than the esophagus.

To point out the reason why the pharynx had been involved in the cases here reported would be impossible.

As a rule this condition is found in men of most vigorous frame; children are rarely affected².

One case has been reported in the *Annales des Maladies de l'Oreille et du Larynx*, Vol. 11, 1877, of a child four and one-half years old. Schepelern³ records a case in a girl, æt. nine years.

Thus my first case here reported is of additional interest, as the patient was a girl six years old.

The first symptom of any consequence is the severe pain with deglutition. If, in addition, the infiltration involves the soft palate, this becomes thick and immovable and there is a regurgitation of food through the nose; speech becomes labored.

There is usually also added a desire for constant expectoration.

The agonizing condition of the patient can scarcely be described.

When swallowing even fluid nourishment becomes impossible, artificial feeding by stomach tube or per rectum must be resorted to, as cited in cases II. and III.

Examination indicates how rapidly this tubercular process spreads from the pharynx to the naso-pharynx and larynx. The mucous membrane of the pharynx, in each case examined, appeared much swollen, red and infiltrated, with numerous tubercles presenting.

Ulcerations appear in various areas on velum palati as well as on pharynx wall, and there is no indication that same has spread by continuity of surface from lateral to posterior wall of pharynx and palate, as stated by Morrell Mackenzie⁴, usually occur.

The diagnosis offers but few difficulties. Occasionally a clinical picture of parenchymatous syphilitic affection of the pharynx is seen, where the mucous membrane is red, swollen and covered with erosions or follicular ulcerations (E. Lange); but the miliary infiltration is absent. In tuberculosis pharyngis there is also the superficial ulceration, which O. Weber⁵ compares to a similar picture in the intestinal tubercular lesions. The syphilitic ulcer of the pharynx is deep, penetrating and sloughing.

To decide whether the pharynx lesions are primary or secondary, without post-mortem, is difficult. Even then there may be some doubt in the matter, when the involvement of the lung has not progressed sufficiently. Schmiegelow⁶ has reported a case of primary "schluck" (swallow) tuberculosis, the diagnosis being made from the history of the case. In Schepelern's case, a post-mortem was obtained, and the diagnosis of primary tuberculosis of the pharynx substantiated.

The histories of the cases herewith reported might indicate that all three were primary lesions in the pharynx.

Physical examination would substantiate this, and the post-mortem examination clinches the conclusions as to the primary character of the pharynx lesions.

There is but one prognosis. In the reported cases death occurred within two to six months after onset of the affection (Case I., four months; case II., six months; case III., five months), yet Cadier (ref. Hosp. Td., 1883, E. Schmiegelow) and Isambert cite a case where patient had not succumbed after the expiration of eight years.

Therapy must be directed to maintain the strength of the patient and to ease the intense pain on swallowing. Ten per cent solution cocaine or twenty per cent solution of menthol for penciling the throat, or insufflation of powder containing two ctgr. morphine. Where the pain is very great, feeding by esophageal tube, or

per rectum, may be advised; tracheotomy may become a necessity, owing to laryngeal stenosis, or even extensive ulceration and destruction of lower areas of the pharynx. Operative interference and the application of such medication as lactic acid simply increases the suffering of the patient. The tubercular process will progress to exitus letalis, defying every treatment.

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A Case of Subglottic Fibroma.

This growth was found in a female, thirty-seven years of age. Symptoms of impeded respiration were observed. On account of the dyspnoea, the trachea was opened by a former attendant, and a tumor was seen an inch and a half in length and three-eighths of an inch broad, making the mucous membrane of the posterior surface of the trachea bulge into the lumen, and causing a similar projection into the œsophagus. At this time the growth was not removed.

When the author saw the case the patient was rapidly losing ground, and so a radical operation was performed by Dr. Richardson. A low tracheotomy under cocaine anæsthesia was done, and chloroform was administered through the tube. The trachea was then opened nearly to the cricoid cartilage. With the sharp curette the fibroma was gradually removed, with but little hemorrhage. The skin was then drawn tight over the trachea and sutured, but the tracheal rings were not sutured. The tube was left in some gauze just above it. In five days the tube was removed; the skin wound had healed by first intention. Patient made a good recovery. Fibromata of the trachea usually occur as sessile growths. Enchondromata are very rare, according to Schrötter.—Dr. John W. Farlow.—(*N. Y. Med. Jour.*, Dec. 11, 1897.)

LEDERMAN.

COUGH DUE TO CAUSES OUTSIDE THE LUNGS.*

BY DR. J. F. BARNHILL, INDIANAPOLIS, IND.

A chronic cough, in addition to the physical suffering it causes, usually gives rise to much mental distress, for it is commonly believed that the lungs are at fault, and consequently the vision of tuberculosis and its results are constantly before the sufferer and his friends. Such cough, however, is often extra-pulmonary in origin and quite innocent in its nature, and a highly commendable service has always been rendered, and the dignity and value of scientific medicine exhibited, when by thorough, skillful and accurate examination the extraneous cause is discovered, dextrously removed and the cough thereby cured. A shadow is then lifted from the lives of the patient and his friends.

It has been said that an irritation in any part of the body has been known to produce a cough. However, the different portions of the upper air tract, from their intimate connection with the vagi and sympathetic nerves, are the most frequent extra-pulmonary seats. A list of the principal reflex causes may be given as follows:

In the ear, impacted cerumen, foreign body or cholesteatoma.

In the nose, hypertrophies, septal spurs, polypi, foreign bodies and the crusts of atrophic rhinitis.

In the naso-pharynx, adenoids, polypi or other growths.

In the pharynx, elongated uvula, granular pharyngitis, hypertrophy and other diseases of the tonsils.

In the glosso-epiglottic spaces, hypertrophied lingual tonsils, varicose veins or a too greatly curved epiglottis.

In the larynx, presence of mucus or pus, congestions and thickenings of the mucous membranes, papilloma or other growth.

In other parts of the body, pressure or irritation of the vagi are most frequent cause.

A positive knowledge of the causative location of a cough is of the greatest importance. A thorough examination of the lungs should be made, however much the symptoms may point to an extra-pulmonary cause, for then the further examination, if required, would be performed with less prejudice. The absence of any discoverable

*Read before the Mitchell District Med. Society, Dec. 28, 1897.

lesion in the lungs, together with the general appearance of the patient, which may be robust, with his family history, which may be good, and with the character of the cough, which may be dry, hacking and spasmodic, will render it sufficiently certain that the cause of the cough is not from the chest, and should therefore be sought for diligently and systematically in the regions most likely to be affected. The patient, himself, may indicate the apparent location of the cough as in the throat or ear, but usually his statements, though honestly given, are misleading, and the above mentioned regions should be searched for foreign bodies, sensitive areas, inflammations and new growths. Skill in the manipulation of reflected light and instruments is of the highest importance. Such simple accessories as a good light, cocaine and a probe, in trained hands, will be sufficient to detect many of the conditions in the nose or ear capable of producing reflex cough. By means of the rhinoscopic mirror conditions of the nasopharynx can be made out in adults and sometimes in children; but, if necessary, the finger may be passed into this space and its condition ascertained. The open mouth, idiotic expression, arched palate and irregular teeth are symptoms, often sufficient in themselves, for the diagnosis of naso-pharyngeal growth. Direct inspection is sufficient to detect tonsillar, uvular and oro-pharyngeal causes of cough; with the tongue gently depressed, if the uvula still hangs in contact with the lingual organ, it should be regarded with suspicion. Greatly enlarged tonsils of any variety may cause cough, but the kind that is most apt to do so is that in which the enlargement is downward, or where there is the so-called lower lobe. In such cases it is difficult to depress the tongue sufficiently to expose the inferior margin of the tonsil, which may extend low enough to occupy the glosso-epiglottic space and impinge upon the epiglottis in such a way as to cause cough by its irritating presence. Tonsillar concretions and adhesions of the gland to the pharyngeal pillars may cause cough. Granular pharyngitis is sometimes a cause. These so-called granulations are really closed lymph follicles and probably cause the cough by the pressure they produce. Cough produced by reflexes from the glosso-epiglottic spaces is probably more frequent than from any other extrapulmonary source, and an examination of this region for enlarged lingual tonsils, varicose veins or other growth, should never be neglected in a suspected case of cough not due to lung lesion. As the author pointed out in a paper before the Western Ophthalmological, Otological and Rhinological Association, the shape of the epiglottis may have to do with the production of a cough, for where it is too greatly curved forward, its crest projects against the base of the

tongue, and the necessary motions of the two organs against each other may cause very active reflexes in the form of cough and clearing the throat, even when there is no other abnormal condition present. Pus from an accessory nasal sinus, or mucus from the naso-pharynx dropping into the larynx, will set up a cough. In such cases the patient, by much clearing and hawking, will keep the larynx rather free during the day, but at night the fluids may find their way into the stomach in such quantity as to produce nausea or vomiting in the morning, or into the larynx, giving rise to morning fits of coughing and expectoration of the material, which the patient naturally supposes comes from his lungs. A foreign body, papilloma, ulcer or inflammatory thickening of the mucous membrane of the larynx may give rise to the most violent paroxysms of coughing, which may occur frequently, and recur indefinitely, or so long as the cause be not removed. These conditions may all be positively determined by the history of the case and the use of the laryngeal mirror.

Failing to find an adequate cause for a cough of suspected extrapulmonary origin in the ear or upper air tract, examination of the vessels and nerves of the neck should be made with a view of locating tumors or aneurisms, which might produce the symptom by pressure upon the vagi or its connections.

As better illustrating the subject, a few cases are appended from the author's records:

Case I. Miss M. F., Cumberland, Ind., atrophic rhinitis. Referred by Dr. Harvey. Coughed very much from irritation of the crusts which blocked the nose and naso-pharynx. The slightest touch of atomized fluids, probe or forceps to the interior of the nose, for the purpose of removing the crusts, would be followed by the most terrific paroxysms of coughing and sneezing, requiring anæsthesia by cocaine before the nostrils could be properly cleansed. Keeping the nostrils cleaned of the crusts daily, with proper applications to the sensitive areas, relieved the cough in two months.

Case II. Ross S., Somerset, Pa., had coughed very much for a year, taking regular medicine the while. Cough was disturbing at night, with paroxysms in the mornings. Examination of lungs gave no evidence of disease there. A septal spur occluded the left nostril, the pharyngeal tonsil was much hypertrophied, the faucial tonsils were enlarged, chronically inflamed and adherent to the pharyngeal pillars, and lymphoid masses filled the glosso-epiglottic spaces. Pressure with a probe in any of these locations would excite a cough. All the above named pathological conditions were removed within a period of three months, beginning by removing the spur with an elec-

tric trephine; the adenoid two weeks later with forceps; the faucial tonsils with tonsillotome, after first dissecting them from the pillars, and lastly, the lingual tonsil by galvano-ignipuncture. The cure was complete, both the patient and his friends reporting progress of the improvement, according to the amount of work done. This case is interesting in that it shows the extensive area from which the reflex may take its origin.

Case III. Contrasts strongly, in that it exhibits a persistent, aggravated cough from the most trivial condition and remarkably small area of irritation. M. S., Irvington, Ind., a man, aged thirty-five, weight 185 pounds, tall, muscular and robust, stated that he had had a cough many months, which had grown worse gradually; that his wife had died of tuberculosis and that he feared he had contracted the disease from her. Said he was very anxious to know his exact condition, for he was wanting to engage extensively in a new enterprise, but if threatened with consumption he desired to change climate at once. He was very despondent. Absolutely no lung lesion could be detected. A mild chronic rhinitis existed, which appeared to have no causative relation to the cough. There was no naso-pharyngeal or pharyngeal disease of any kind. The glosso-epiglottic spaces were free from lingual tonsil or enlarged veins, but at a point opposite the crest of the epiglottis, on the base of the tongue, there were three little tumors, each as large as a grain of wheat, and having a delicate, slender pedicle large enough to allow such freedom of motion as to permit them at one instant to lodge at the bottom of the space, and at another to be whipped by the air current of the coughing movements over the crest of the epiglottis, and thus by their irritating presence cause the trouble of which the patient complained. They were easily snared away, to the complete relief of the patient. They proved to be papilloma.

Case IV. Edith E., Indianapolis, aged six, was a delicate-looking child and had coughed since infancy, requiring the attention of a physician very often. The parents believed her to be tubercular and had given many bottles of cod liver oil emulsion, with no improvement. She was referred to Dr. Lambert for an examination of the lungs, but he finding no pulmonary trouble, and believing the disease to be in the upper air tract, referred her to the author. Sitting upright she breathed with great difficulty; none through the nose, and very noisily and laboriously through the mouth. The faucial tonsils were large enough to be in contact with the slightest pharyngeal movement, and the uvula was pinched and rolled between the upper part of the inner surfaces of the glands. They were not inflamed,

neither had she ever had an attack of tonsillitis. Respiration was a constant struggle at night. It seemed clear that the cough was due to the irritation of the enlarged tonsils, and the general ill-health and lack of development to the imperfect respiration and the struggle to perform even that. My custom is to remove both tonsils and adenoids at one sitting, but in this case the delicate state of health contra-indicated the procedure, so the faucial tonsils were first removed, and after a month the adenoids. The first procedure practically stopped the cough, the second did so completely.

Case V. Mrs. C., aged forty-four, of Indianapolis, a woman of very delicate appearance, coughed much and complained of frequent sore throat. No evidence of a cause for these complaints could be found anywhere except in the glosso-epiglottic space, where the veins were varicose and large enough to touch the epiglottis. She was given tonics, and the largest varicose bunches were punctured, one at a sitting, at intervals of a week, with an electro-cautery knife. She reported, six months after the last treatment, that the cough no longer troubled her.

Such examples might be multiplied, but it is unnecessary.

The successful treatment depends entirely upon the proper recognition of the cause and the ability to remove it. The relief in some cases can be brought about by the most trivial surgical measures, while in others a long course of treatment will be required, and the greatest skill and experience will be needed. A certain per cent. of cases are neurotic and will, in addition to other means, require such remedies as iron, *nux vomica* and zinc phosphide. When hyperæsthesia persists in the nose or throat after its cause has been removed, in addition to local applications, bromides alone, or combined with camphor and valerian, will be of service. To give an opiate in such cases is usually at the risk of forming a habit. Lozenges of lacticarium have been of service where the trouble is in the pharynx or larynx.

412 N. Delaware street.

A RAPID METHOD OF MAKING GRAPHIC CHARTS OF HEARING POWER FOR VARIOUS TONES.

BY DUNDAS GRANT, LONDON; M.A., M.D., F.R.C.S. ENGLAND.

When Hartmann first published his *graphic method of recording the hearing power* for the sounds of his series of five tuning forks, those to whom a multiplicity of simple proportion sums was repugnant, were naturally apt to be deterred from taking it up with enthusiasm. Some opposed it as not corresponding in its proportions to the intensities of the sound at different stages in the dying-out of the tuning-fork vibrations. The method has for the present, however, been adopted and approved in spite of this discrepancy. Gradenigo, in Schwartz's Handbook, makes it the basis of his diagnostic scheme, employing it only for air conduction. He insists, however, on a slight modification, in view of the *effect of fatigue* of the auditory nerve, and directs that the tuning fork, when no longer heard, should be brought again and again opposite the meatus till it is no more re-heard. In normal conditions of the nerve this amounts to very little, but in cases of increased "fatigability" it may add a considerable percentage to the amount obtained. This difference is a measure of the said fatigability. So-called practical people object to the method on account of the time involved which they think might be better spent in pushing inquiries in other directions. I have felt this so strongly and have found the sentiment so deeply ingrained in my assistants, that I have been led to treat the method with a neglect against which my better judgment rebelled. Of late I have made use of the accessory means I am about to describe with the result that I can take a chart of the hearing in a very few minutes, and it can be done by any ordinarily intelligent person possessed of normal hearing, conscientiousness and good-will.

Hartmann advises the use of *five forks*, C 128, C¹ 256, C¹¹ 512, C¹¹¹ 1024, C¹¹¹¹ 2048. The length of time in seconds that each fork is heard by a healthy ear after the best stroke—found to be fairly constant—is to be noted as the normal. An ear hearing the fork for this length of time would be then credited with possessing for it 100 per cent of hearing power. If, on the other hand, the fork was only heard for a much shorter time, this time—in seconds—would have to

be multiplied by 100 and divided by the normal. The result of this arithmetic is to give the percentage of hearing for the said fork possessed by the ear under examination. This has to be gone through for each fork, and the percentages are, as is well known, plotted out in the form of a chart; for air conduction this would present the following appearance:

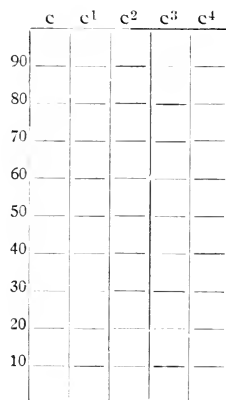


Fig. 1.

Much information may be obtained by the use of four additional forks, *three lower forks* (C_{-2} 16, C_{-1} 32, C 64 d. vs. per sec.) and *one higher one* (C^5 4096). The chart would then be as Fig. 2:

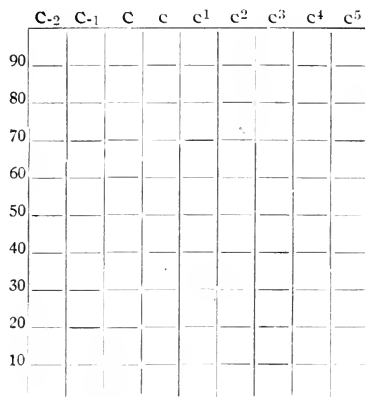


Fig. 2.

On such charts the column for each fork is shaded or colored from below upward over the extent corresponding to the percentage of the hearing power for the given fork, as indicated by the figures on the left side. It will be noted that the lowest forks are on the left,

the highest on the right, and the number of squares colored would indicate roughly the *total amount of hearing power* or "field of audition" of the patient relative to the normal. The *chart for the normal ear* would be colored all over, that for an *absolutely deaf one* being, of course, totally blank.

The following are fairly typical examples:

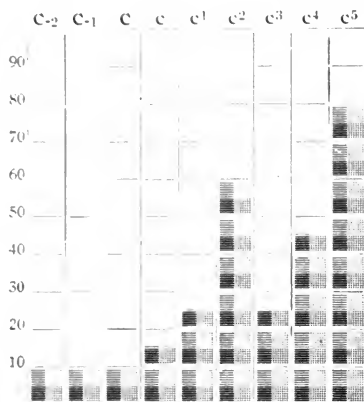


Fig. 3.

From a case of chronic catarrh of the middle ear, hearing power chiefly diminished for the lower tones, bone-conduction increased. Rinne negative, Weber positive.

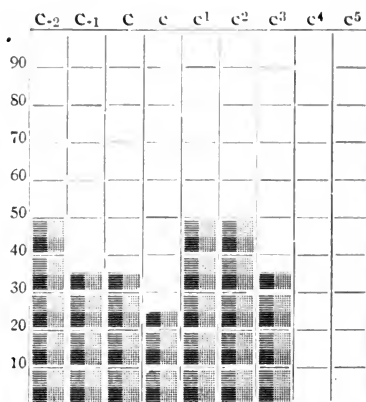


Fig. 4.

From a case of nerve-deafness, hearing power chiefly diminished for the higher tones, bone-conduction diminished. Rinne positive, Weber equal.

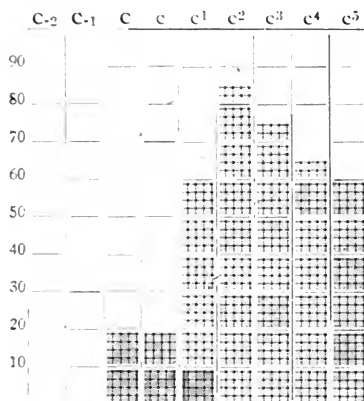


Fig. 5.

From a case of sclerosis of the middle ear with commencing involvement of the cochlea, hearing for the lowest tones lost, for middle tones fairly good, for the highest tones diminished. Bone-conduction (c1) not increased. Rinne negative, Weber positive.

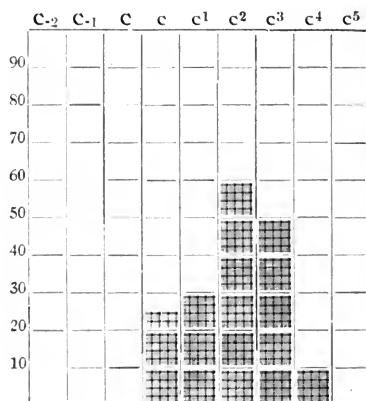


Fig. 6.

From a case of sclerosis of the middle ear and cochlea, due to hereditary syphilis, hearing for the lowest tones lost, for the middle tones much diminished, for the highest tones lost. Bone-conduction (c1) diminished. Rinne negative, Weber equal.

To simplify the process, the natural idea is to make a *table giving the percentage* corresponding to every number of seconds, from 1 up-

to normal for each fork. It is then only necessary to look at the table and mark the percentage thus found.

To determine most easily the duration of the patient's hearing, it is most advisable to have a *stop-watch* which is started the moment the fork is struck and stopped when the patient ceases to hear the tone.

In most instances time may be saved by measuring *how long the observer's normal ear hears the fork after the patient ceases to do so*. The number would have to be subtracted from the normal and the remainder taken as the quantity the proportion of which to the normal is to be expressed as a percentage. To save this lengthy proceeding the percentage may be easily calculated for each number of seconds that the observer's ear hears the fork longer than the patient's. This can be written down in a table and kept for reference.

To my own set of nine forks the "normal" durations of audibility are as follows:

C ₋₂	C ₋₁	C	c	c ¹	c ²	c ³	c ⁴	c ⁵
25	20	25	50	12	110	50	20	5 seconds.

It is only necessary then to divide the vertical column for each fork into as many equal parts as the seconds during which it is normally heard. These parts may be numbered from below upward if the actual time the patient hears is noted, or from above downward if we go from the number of seconds the fork is heard by the normal ear when no longer audible to the patient. The latter is the method I employ, and the *chart is figured thus*: (The numbers on the left-hand side giving the percentage without further calculation.)

	C ₋₂	C ₋₁	C	c	c ¹	c ²	c ³	c ⁴	c ⁵
	1	1	1	2		5	2	1	
90	2	2	2	5	1	10	5	2	
	3		3			15			
80	4	3	4	7	2	20	7	3	
	5	4	5	10		25	10	4	1
	6	5	6	12	3	30	12	5	
70	7	6	7	15		35	15	6	
	8	7	8	18	4	40	17	7	
60	9	8	9	20		45	17	8	
	10	9	10	22	5	50	20	9	2
	11		11			55			
50	12	10	12	25	6	60	22	10	
	13	11	13	27		65	25	11	
40	14	12	14	30	7	70	27	12	3
	15		15			75			
	16	13	16	32	8	80	30	13	
30	17	14	17	35		85	32	14	
	18	15	18	37	9	90	35	15	
	19		19			95	37	16	
20	20	16	20	40	10	100	40		
	21	17	21	42		105		17	
10	22	18	22	45	11	110	42	18	
	23	19	23	47		115	45	19	
	24		24				47		

Fig. 7.

The following are the "*Instructions for the use of the tuning-fork charts:*"

"Strike the fork (hard for a very deaf case, gently for a slight one, so as to save time); hold it opposite the ear to be tested. As soon as the patient ceases to hear the fork, start the stop-watch. Hold the fork opposite your own or a normal ear. As soon as it ceases to be heard stop the watch. Note the number of seconds and draw a line through that figure in the column of the chart. Do this for each fork. Shade or color the spaces below the lines drawn."

It is further clearer and simpler if the numbered chart is drawn out on a card, and a piece of tracing paper is fixed over this by means of a letter-clip. The outer contour and percentage lines of the chart are traced out and the marks corresponding to the results are made as they are obtained. A simple picture of the patient's field of audition is thus produced, and it can be stuck in the case-book.

The whole proceeding is quite easy, and can be expeditiously carried out by any assistant who has, as before premised, normal hearing and good-will.

Adenoid Vegetations in Deaf Mutes.

After examining 158 subjects in the deaf-mute institution of Prague, this observer found 54½ per cent affected with adenoid growths, which filled the naso-pharyngeal space. Out of this number 56 were boys and 38 girls. Various local deviations from the normal were noticed in the aural structures. The author recommends a prophylactic course. From birth to the seventh year children should be examined for post-nasal disease. He believes that the acquired form of deaf-mutism should be greater than the congenital variety. Myggind has found on post-mortem examination that a large number presented pathological modifications of the middle ear, and that out of 118 autopsies in only 19 was the labyrinth, or central nervous system, intact. In most of the cases the changes were due to severe and extensive inflammations, especially in acquired deaf-mutism. The internal ear was affected most in the semi-circular canals, rarely in the vestibule.—Jaukelevitch.—(*Amer. Med. Surg. Bulletin*, Dec. 10, 1897.)

LEDERMAN.

PHOSPHOR-NECROSIS OF THE TEMPORAL BONE.*

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Phosphor-necrosis is described as a characteristic maxillary bone disease, commencing after several years' contact with phosphoric fumes, occurring especially among workmen in match factories, affecting 11 to 12 per cent of those exposed to the fumes.³

It very rarely affects persons with sound teeth, but occurs mainly in those whose teeth are carious; where the teeth have been extracted and the alveolar process exposed exceptionally predisposes to the disease. The earliest case reported² was in 1845, being noticed in 1839, about eleven years after the opening of match factories in Vienna. It is much less prevalent now than formerly, on account of better hygienic surroundings in the factories, improved artificial ventilation, the vaporization of turpentine³ and the rigid inspection to which the workmen are subjected. The red amorphous phosphorous is comparatively harmless and is now generally used. The first symptoms are toothache, followed by pain in the jaw, swelling and tenderness of the gums and formation of abscesses, discharging fetid pus through the cheek, roof of mouth, or even the aural cavity, leaving fistulous openings.² The patient acquires a peculiar pasty appearance of the face and puffiness of the cheeks.

The usual complications are chronic bronchial catarrh, chronic gastro-enteritis and constipation. The patients rapidly deteriorate in general health. The most rare complication is pointing of abscesses or continuation of the otitis to the bones of the external auditory canal, which is described by only one author.² After subsidence of the acute symptoms the bone is found to be necrosed. The disease is always chronic, and almost imperceptibly slow in the upper jaw, but in the lower is sometimes acute and attended by high fever. The lower jaw is most frequently attacked. The disease begins in the periosteum, is due to local irritation, and ends in the death of the bone. The sequestrum adheres firmly to the underlying bone, becoming in-

*Read before the Section of Laryngology and Otology of the British Medical Association, sixty-fifth annual meeting, Montreal, August 31, September 1, 2 and 3, 1897.

crusted with a pumice stone-like material. The disease may affect only small parts of the jaw, or even the whole bone.

The treatment advised by all authors is dietary, hygienic and stimulant, together with tonics, antiseptics, washes and removal of the sequestrum by operation. Operations for removal of dead bone are generally very successful.¹ Bilroth cured twenty out of twenty-three cases.⁴ Of neglected cases, 35 to 38 per cent die of complications and of sepsis. I beg to submit the history of the following case:

January 6, 1896. J. J. W., aged fifty-eight, American, employed in one of the principal match factories in the United States, first as a fireman in the boiler room for fourteen months, then as watchman for two years, then as a melter of phosphoric composition and a roller-man for six weeks. His father died of apoplexy at seventy-eight; mother of epidemic influenza at sixty-nine; brother and sister in good health. Two sisters and one brother died in infancy. Claimed to have always been in good health, except diphtheria at the age of twenty-three and epidemic influenza five years ago. Three years ago he had painful left upper jaw, having two teeth extracted, and later had all of them removed, after which he wore a plate. He was kept from work for five weeks, felt very good, but after this noticed pain in the ear, which was referred to the mastoid region. About January 1, 1895, he had pain in the ear and foul muco-pus discharged. The patient lost decidedly in flesh. About this time he was struck on the left side of the head by a match composition, which covered the side of his face and filled his ear. His mouth was so sore at times that the plate could not be worn. In May, 1895, sequestrum from the upper maxilla was removed by a dentist, after which he was little troubled.

January 1, 1896, he was sent to me for treatment of his ear. His condition was the following: Weight, about 130 pounds, tall and angular, face of pasty appearance; the left alveolar process swollen and puffy, there being two fistulous openings on the buccal side and one in the roof of the mouth. Examination with probe showed roughened, denuded bone. The left external auditory canal was full of fetid pus. There was decided periostitis, swelling and tenderness over the mastoid region. Posterior wall of the canal was reddened and swollen, being painful to touch of probe. There were granulations at the lower portion of the membrana flaxida, which covered a small perforation: the membrana tympani being apparently intact, but a perforation whistle was heard on inflation. In the right ear the membrana tympani was retracted and thickened. The temperature

was 101° and patient apparently very weak. During the week before he had had several chills, considerable headache and had been confined to bed. The patient would not submit to immediate operation and left my office but returned in two days, when he had a temperature of 103° and apparent septicemia, so he was immediately sent to the hospital.

Operation: Under ether narcosis, the mastoid cells and antrum were opened, the posterior and superior wall of the canal removed, the bone of the last two places being found necrosed. The mastoid cells were apparently healthy, although the antrum was filled with foul greenish pus. The wound was packed with iodoform gauze and dressings made every second day. By the operation, the mastoid, antrum, the cells, the attic of the tympanum. and the external auditory canal, were converted into a large cavity.

When he returned home, January 25, he had gained about ten pounds under diet and tonics. He was treated at his native city, under my directions, by a physician, but returned to me on June 1, 1896, having lost flesh, being reduced to 128 pounds. He had recurrence of chills and temperature; a loose sequestrum was found in the sinus back of the ear, so under narcosis, the antrum was again opened, the dead bone removed and tube inserted for drainage, which was free from the sinus through the middle ear and auditory canal. This time he remained for several months, until the sinus at the back of the ear was allowed to close. He gained nearly forty pounds under hospital diet and tonics. There was rapid replacement of the posterior wall of the canal by a new growth of bone, so great that its lumen was almost closed. The company dentist at this time scraped the carious upper jaw, after which he was again able to wear his artificial teeth.

April 22, 1897, he returned for treatment, stating that he had worked for several months, but that he had great pain in the ear and head. The ear had been occasionally treated by antiseptic washes, but there was now a slight fetid discharge. It was found that the growth of the posterior wall of the canal had sclerosed and shrunken so that the canal was now nearly of normal size. The sinus back of the ear had healed and the discharge seemed to come from granulations near the osseous ring of the tympanic attic. There was a large perforation and injections were easily made from the canal through the Eustachian tube. The granulations were removed and the patient treated by antiseptic injections. Patient remained here two months, again gaining in weight nearly forty pounds, and when he returned home there had been no discharge from the ear for several weeks.

August 20, 1897, after this report had been prepared for this asso-

ciation meeting, the patient unexpectedly returned, stating that he had worked for two weeks after leaving my care, but since that time he had been again failing in general health and lost in weight. For about six weeks there had been purulent discharge from the ear, concerning which he had written me and had been ordered to treat same by injections of boric acid solution. After two weeks he had considerable pain back of the ear and had but little sleep. On examination there was found purulent discharge from the middle ear, the walls of the external meatus, particularly the posterior, being swollen and tender. Dizziness was experienced from mopping out of the ear. Patient weighed but 135 pounds, had acquired a waxy appearance of his face and complained greatly of his symptoms. There was no periostitis over the mastoid or other symptoms, except tenderness upon pressure. The patient being suspected of malingering, was sent to the hospital and carefully watched for four days. The temperature during this time was normal. Largely on account of the patient's complaints, I concluded to again open up the mastoid antrum and cells, the operation being deemed warrantable on account of the chronic suppurative disease.

Operation, August 24, under ether anesthesia, at the Milwaukee Hospital. The mastoid was chiselled and drilled open, the external layer being found hard and cancellous, under which there was found a pasty mass of necrosed bone from which exuded greenish fetid pus. The posterior wall of the canal was soft and friable and readily removed by the spoon. It was found that the superior wall had been largely reproduced, and therefore the triangular piece of bone between the attic and the tympanum was removed and granulations taken away from the tympanic attic. Since that time the wound has been dressed twice, being apparently free from pus. Patient was expected to make a good recovery.

January 15, 1898. The patient was sent home three weeks ago to receive treatment in his own city. There is a large sinus through the mastoid communicating with the middle ear, which has shown no evidence of closing except by soft granulation tissue, which has been removed several times by the curette. There has been practically no evidence of bony repair. The physician who now has him in charge reports the condition the same as upon arrival. The wound is daily irrigated with sublimat, boric or other antiseptic solution, and tube or gauze drainage established. A slight glairy mucous discharge persists.

It may be questioned whether the temporal bone disease is of phosphoric origin. It has been shown that abscesses of the upper jaw

may discharge through sinuses in the external auditory canal or middle ear, and this may have been the starting point for the necrosis. The character of the maxillary disease and his occupation leave no room for doubt in my mind but that the necrosis of the jaw had its origin in phosphoric absorption. Another possibility of the middle ear and mastoid affection is the fact that a mass of the phosphorous paste was by accident thrown into his ear and was probably insufficiently removed, after which discharge and perforation of the drum-head occurred. The character of the middle ear and mastoid disease was similar to that of the upper jaw, very chronic in its course and yielding but slowly and incompletely to treatment, presenting a contrast to other mastoid cases.

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128 Wisconsin Street.

Quinine Treatment of Meniere's Disease.

Dr. Gilles de la Tourette states that sulphate of quinine is a specific in Meniere's disease, and that its effects are excellent when properly administered. (*La Semaine Med.*, August, 1897.) Local irritation, such as an impaction in the canal or inflammation of the tympanum, should first be eliminated. Seven to fifteen grains should be given per day, this being divided into three or four doses and taken between meals in sufficient water to prevent injury to the stomach. The symptoms may at first become aggravated, but it should be continued for two weeks, and when this proves ineffective, it should be repeated after an interval of two weeks.

Where the quinine fails, salicylate of soda, one-half to two drachms daily, might be tried for two weeks. The quinine relieves the hyperexcitability of the labyrinth, but is of no service in deafness resulting from sclerosis of the tympanum and ankylosis of the ossicles. He favors the view taken by Charcot that quinine does not cause deafness.

SCHEPPEGRELL.

SPRAYS AND INHALENTS.

BY SETH SCOTT BISHOP, B.S., M.D.

Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital; Consulting Surgeon to the Mary Thompson Hospital, etc.

Inhalents administered by means of spraying and vaporizing apparatus have come into very general use among Americans. This is attested by the large number and variety of preparations and devices for spraying that have become aspirants for the favor of the profession during the last few years.

Many inquiries are made, indeed, scarcely a day passes that letters are not received from physicians concerning atomizers and inhalents, and it is for the purpose of answering many at one writing that these notes are made.

First, as to the atomizing instruments that have proved satisfactory. For coarse sprays the DeVilbiss atomizer answers the purpose admirably. It is made for use either with a hand bulb or with fittings for the compressed air cut-off. On my suggestion, Dr. DeVilbiss added a flange to this atomizer corresponding to the flange on my improved middle-ear inflator, so that the instrument is held securely in its connection with the air cut-off while in use. This arrangement prevents the current of air from throwing the atomizer out of the operator's fingers. The DeVilbiss instrument has the best revolving adjustable tip I have ever seen. The Davidson atomizer, with straight and curved tips, gives satisfaction. An especially good characteristic is that it does not leak.

There are several excellent devices for producing a very fine nebulous vapor, which is especially adapted for administering quite strong medicaments, and for bronchial and pulmonary affections. The globe nebulizer possesses several advantages that are worth our consideration. The recently improved instrument is a very perfect contrivance. It is strongly constructed; it allows of many combinations of inhalents contained in its several globes by merely turning one or more valves; it has an air-current interrupter; it produces an exceedingly comminuted vapor that penetrates the air passages very deeply, and it is, withal, a useful ornament to one's office.

The dilator produces a very fine nebulous vapor also, and it is well

adapted for inflating the middle ears and the lower respiratory passages. These instruments permit of using remedies very much stronger than the air tract would tolerate in the form of coarse sprays. Ten and 20 per cent solutions of camphor-menthol can be employed in these instruments, whereas, we must limit ourselves to about one-half to one-seventh of these strengths in the coarse sprays. The minutely vaporized sprays do not bathe the mucous membrane with the oleaginous medicaments. They are comparable to the alkaloid preparations as compared with the grosser forms of medicines for internal medication. We produce the effects of the remedies with a minimum amount of the agent used. A powerful impression of the 10 or 20 per cent solution of camphor-menthol in benzoinol can be made without a perceptible quantity of the drug appearing on the surface.

This brings us to the question of inhalents. There is no dearth of these preparations at our command, but, like men, some are better than others. For softening, dissolving and washing out discharges and crusts that cling to the mucous membrane I employ largely alkaline solutions. I have found the following formula an excellent one:

Acidi borici.....	}	aa. ʒii.
Sodii bicarbonatis.....		
Sodii chloridi.....		
Glycerini.....		ʒiii.
Aquae rosae.....		ʒiv.
Aquae		q. s. ad oi.

Filter and use as a spray.

It is essential to effectively cleanse the diseased surfaces before applying the remedies that are to remain in contact with the membrane for a considerable time. Many of the sprays in common use are made to have an acid reaction, probably on account of the bactericidal action of the acids, but if the douches are alkaline they will the more readily remove the discharges and incrustations, and they are much more agreeable to the patient. The latter point is not to be overlooked in treating a certain class of patrons whose comfort a surgeon cannot ignore without loss.

For a permanent medicinal effect on the mucous membrane inhalents should be combined with a purified petroleum oil, and it is better that this oil should be rendered always antiseptic and disinfectant. These requirements are admirably complied with in benzoinol. The addition of the balsamic resin, benzoinum, to the oil adds the germicidal property of an acid, besides the slightly stimulating effect of benzoin, to the emollient and protective qualities of

the oil. This affords an ideal base for various therapeutical combinations for medicating the respiratory mucous membrane.

Simple benzoinol has proven very efficacious as a detergent and protective spray in acute inflammatory conditions of the nose and throat. For home treatment patients are given a simple, inexpensive hand-atomizer with a 3 per cent solution of camphor-menthol for use every morning and night, and even oftener during the acute stage. When the inflammation involves the larynx and trachea, or the bronchial tubes, great relief is obtained from inhalations of pure camphor-menthol placed in the benzoinol inhaler half filled with hot water. Ten drops of this remedy are added to the water, which must be hot enough to generate steam, but the lips can embrace the wood-encased nozzle without discomfort. This is a cheap but effective method of administering hot, moist inhalations. The soothing effect of steam is desirable as an auxiliary to the medicine.

In the many possible combinations of benzoinol we may obtain the antiseptic effects of carbolic acid, creosote, eucalyptol and iodine, the stimulating qualities of benzoin, cubeb, menthol, etc., and the drying property of pine needle oil.

The camphor-menthol preparations possess antiseptic qualities. They also contract the capillary blood vessels of the mucous membrane, reduce swelling, relieve pain and fullness of the head, due to nasal stenosis in acute rhinitis, arrest sneezing, check excessive discharges and correct perverted secretions.

In the attacks of sore throat that occur during the spring and autumn changes of the weather, where we find the rheumatic or gouty diathesis, salol and wintergreen are indicated for topical applications, in addition to the internal administration of sodium salicylate and lithium. The following formula is well adapted for this purpose:

Salol.....	3 per cent.
Oil of gaultheria.....	4 “
Thymol.....	3 “
Benzoinol.....	90 “

Patients can use this spray three or four times daily with a hand-atomizer for home treatment and derive much comfort and benefit.

In tuberculosis of the nose and throat, whatever in the least mitigates the unhappy condition is worthy of our consideration. The atomizer puts some power of local self-treatment within the reach of the sufferer. It is possible for the patient to cleanse, disinfect, stimulate and protect the diseased membranes as far downward in the air

tract as the larynx, at least. For such purposes, in the preulcerative stage, the following formula is indicated:

Aristol	10 per cent.
Menthol	3 “
Benzoinol	87 “

After ulcers have formed and difficult and painful swallowing become prominent symptoms, the following formula can be advantageously employed by the patient:

Creosote	4 per cent.
Carbolic acid.....	3 “
Oil of tar	3 “
Oil of wintergreen	4 “
Benzoinol	86 “

Self-treatment with this spray will not interfere with the physician's application of cocaine, eucaine, acetic acid, etc., according to the indications in each case.

In the most common catarrhal conditions of the nasal passages the formula that follows has given especially good satisfaction:

Camphor-menthol.....	3 per cent.
Pine needle oil	2 “
Eucalyptol	1 “
Benzoinol.....	94 “

For those numerous cases in which there is too great activity of the mucous glands, the siccative effect of the pine needle oil is indicated, in addition to the camphor-menthol. The eucalyptus is antiseptic, destructive to low forms of life, and pleasant, and the soothing and protective qualities of the benzoinol are all that could be desired.

103 State Street.

Aid to the Early Diagnosis of Tuberculosis by Injections of Artificial Serum.

Twenty c. c. injected subcutaneously in a normal healthy person produce no febrile reaction, but in a person with tuberculous lesions the temperature rises to 100° or 103°c. in the course of nine hours, returning to normal by the end of twenty-four. The temperature must be taken, commencing a few days before, to determine the absence of fever, and every three hours afterward. The reaction is not positive unless the temperature attains 100°. (*Sem. Med.*, Nov.)

AN ADDITIONAL NOTE ON THE TREATMENT OF STRICTURES OF THE EUSTACHIAN TUBE BY ELECTROLYSIS.

BY ARTHUR B. DUEL, M.D.

Aural Assistant Surgeon New York Eye and Ear Infirmary; Assistant Surgeon (Throat Department) Manhattan Eye and Ear Hospital; Consulting Aural Surgeon Willard Parker and Riverside Hospitals.

In the July, '97, issue of *THE LARYNGOSCOPE*, the writer published an article on "The Rapid Dilatation of Strictures of the Eustachian Tubes by Electrolysis, with a Report of Cases."

The subject has awakened so much interest, and has brought so many inquiries in regard to the permanency of the effect produced, the details of carrying out the treatment, etc., that this means is taken of replying, with some improvements added, which have been found to be of considerable advantage.

First of all, to those who have reported failures with the method, the writer would suggest that they are probably due either to the selection of unsuitable cases or an improper use of the electricity. While it was suggested that this means of carrying the negative pole of the galvanic current directly into the tympanum might be of value in cases of the sclerotic variety of catarrhal middle ear disease, even when the tube was very patent, it was not for such cases that the procedure was advocated. It was only in those cases where there is decided narrowing or complete stenosis of the Eustachian tube, occurring in chronic tubal catarrh, alone, or in connection with chronic catarrhal otitis media, that relief can be promised, and it is safe to say that, in such cases, the promise of improvement in hearing and relief of tinnitus, either partial or complete, may be made with considerable certainty. In cases where there is distinct evidence of labyrinthine disease, or in residual purulent cases, accompanied by a narrow tube, the relief afforded by opening the tube may be considerable, or none at all; so that, while it is justifiable to dilate such tubes, the hope of relief promised should be very guarded.

To those who have used the method properly, in suitably selected cases, it seems indisputable that it will accomplish the mechanical result of opening a stenosed Eustachian tube much more easily and permanently than any other method. The improvement in hearing, tinnitus, vertigo, etc., which follows, will naturally depend upon how much of it is due to the closure of the tube.

Certain points in carrying out the treatment cannot be too strongly insisted upon, if one wishes to get the best results with the least discomfort to the patient. It is absolutely essential that a reliable milliamperemeter should be used to measure the current strength, and that a rheostat be employed, which will enable the operator to increase or decrease the amount very gradually, thus avoiding any sudden make or break in the current. It has been found also of great advantage to have some arrangement by which the voltage can be regulated. This is particularly important where street currents of high voltage are employed. For this purpose voltmeters have been devised with which any number of volts, from one to the full number, can be turned on. One of these, made by Vetter & Co., in use at the New York Eye and Ear Infirmary, is very satisfactory. They are quite expensive, however, and for all practical purposes, a few lamps of different candle power, arranged with switches so that they can be thrown in shunt, may be used to cut the voltage down to the point desired. Mr. Vetter has made for the writer such a switchboard, with which the operator can, at will, turn on twenty, forty, sixty or one hundred and twenty volts. Those who use a battery can easily arrange a switchboard with which they can select a few cells at a time, and thus get about the voltage they require. Ordinarily, twenty to forty volts will be sufficient. It is a good rule to get the current strength desired (i. e., two to five milliamperes) by using a comparatively low voltage—say twenty to forty volts—and turning the rheostat down quite firmly, rather than by using a high voltage and turning the rheostat down only a little. The advantage of this plan is that it seems to be less painful to the patient, especially in cases where as high as five milliamperes current strength seems necessary to obtain the electrolytic action desired.

The naso-pharynx should be cleansed with Dobells or Seilers solution and anæsthetized with a spray of 4 per cent solution of cocaine, or, perhaps, better, by passing a swab of cotton, saturated with the same solution, over the course to be followed by the tip of the catheter, thus accomplishing the double purpose of anæsthetizing the parts and cleansing the Eustachian orifice of any mucus which may be lodged there. The position of the Eustachian orifice should always be ascertained previous to passing the bougie by catheterization (with a pure silver catheter, the curve of which can be changed until it fits each case accurately) and inflation, the operator satisfying himself that the catheter is properly placed by the diagnostic tube. In any case where the tube is so much stenosed that no air is heard to enter the tympanum on inflation, no attempt should be made to

pass the bougie without previously ascertaining with the post-rhinoscopic mirror that the tip of the catheter is accurately placed in the Eustachian orifice. The catheter having been properly molded for the case can best be insulated by winding a narrow strip of rubber tissue, such as is used in surgical dressings, spirally around it from the tip to the funnel end. This is quickly done, insulates the catheter perfectly, and can be renewed each time, thus allowing thorough sterilization by boiling, which was not possible with those insulated with silk and shellac. The bougies are now made of gold instead of steel, the advantage being that they do not corrode. They are not much more expensive at first, and, in the long run, much less so than the steel ones.

A point of considerable importance in the operation when the bougie has been passed up to the point of constriction, and the current turned on, is that the attempt should not be made to push through the constriction too rapidly, as it takes a minute or two (sometimes more) for the softening of the constriction to take place. The best plan is to turn on two milliamperes and hold the bougie against the constriction with a moderate pressure for one minute. If the constriction is not then felt to soften up and allow the bougie to pass slowly through it, another milliampere should be turned on for another minute, and so on up to five, if necessary. If the patient complains of dizziness or too much discomfort the current strength will have to be maintained for a longer period of time at a lower point. If the constriction still resists after a contact of five minutes, it is better to desist and wait for another week, rather than renew the attack with a smaller bougie at the same sitting. In two or three cases the most brilliant results have been obtained where the bougie failed to pass through at the first attempt, the tube being found, on inflation two or three days later, to be much more patent, and a week or two afterward allowing the same sized bougie to pass with comparative ease.

In regard to the frequency of the operation and duration of the effect, it is best to bougie, wait two days, inflate, and then repeat the inflations every two or three days. If, at the end of a week, no improvement in the patency of the tube is noticed on inflation, it should be bougied again; if there is marked improvement the inflations are kept up and the tube not bougied again so long as improvement continues. When decided improvement has taken place, but goes no farther, and the tube still seems narrower than it should be, the process is repeated with the next larger bougie, and so on, until the patient is entirely relieved or the tube so patent that it is evident that

it can no longer be considered the cause of the distressing symptoms. In some instances it has seemed unnecessary to bougie the tubes a second time; in most cases, however, it has been repeated a number of times at varying intervals before the tubes seemed sufficiently patent. Having once been well opened, they have seemed to remain so indefinitely; two cases have now remained open for more than a year, and many others for periods of several months, requiring only an occasional inflation to maintain whatever benefit was at first derived.

A large number of selected cases, now being treated by this method at the New York Eye and Ear Infirmary, under the direction of Dr. J. F. McKernon and the writer, will be reported later on.

109 Madison avenue.

Cyst of the Auditory Canal.

This very rare condition was observed in a male patient, fifty-three years of age. He complained of a buzzing in the right ear, and felt as though the passage had gradually become occluded in the last few months. Watch was heard on contact, and when placed against cranial bones. Objective examination showed right auditory canal occluded near external opening. Obstruction was covered with cuticle. Probe proved it to be soft and elastic. The growth completely filled the canal and arose from a broad base on the anterior wall, but only touched the posterior wall. During the examination patient stated that he heard better as the tumor was forced forward. An exploratory puncture was made with a hypodermic needle and the contents found to be a serous fluid. A crucial incision was made, and the cyst curetted with a sharp spoon. The patient was discharged on the fourth day, cured. This condition is a very rare one.

Another cyst in the neighborhood of the cartilaginous portion of the Eustachian tube is reported by the same observer, occurring in a tuberculous patient, male, forty-nine years old. The growth originated in Rosenmüller's furrow, and grew downward and forward, covering the cartilage of the tube and pressing on the anterior wall, thus causing a diminution in the lumen of the tube.—Prof. Joseph Gruber.

—(*N. Y. Polyclinic*, Dec. 15, 1897.)

LEDERMAN.

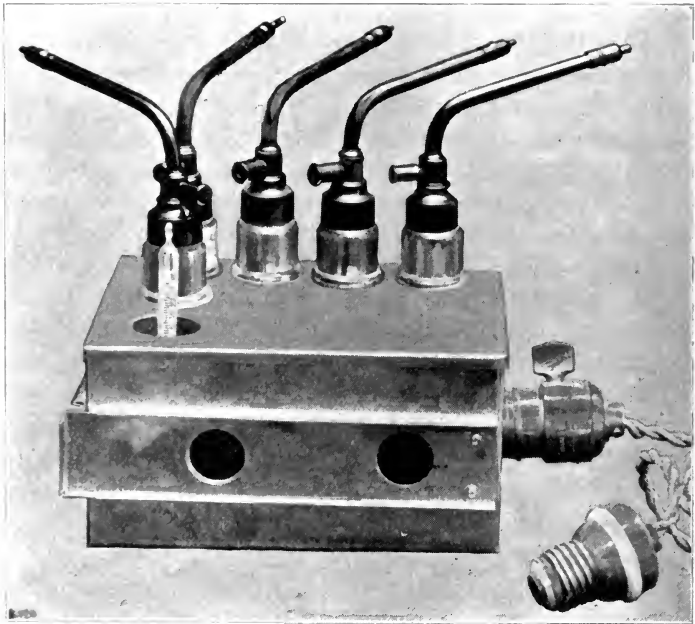
NEW INSTRUMENTS.

AN APPARATUS FOR WARMING SPRAYS IN TREATING DISEASES OF THE NOSE AND THROAT AND BRONCHIAL TUBES.

DESIGNED BY DR. L. C. CLINE, OF INDIANAPOLIS.

The cut shown herewith represents a spray-warmer I have had in use, and have thoroughly tested, for one year. It consists of a metal box of Russia iron or copper, nickel plated.

The box is seven and one-half inches in length, five and one-half inches in width and three and one-fourth inches in depth. The lid



has attached to it six candle-mold tubes, projecting into the box to receive the spray-tubes. It has two sliding dampers, by which the temperature can be accurately regulated to any degree of heat required.

Ample heat is furnished by a ten or sixteen-candle incandescent lamp. After once regulated it requires no further attention.

In my experience, warm medicated oil sprays are very valuable in treating laryngeal and bronchial troubles. Warm sprays have many advantages over cold ones; they do not produce a shock and are much more agreeable to patients. I do not believe that everything can be done with sprays, but they have their place and use.

This apparatus is far superior to any water-bath or other spray-warmer with which I am acquainted.

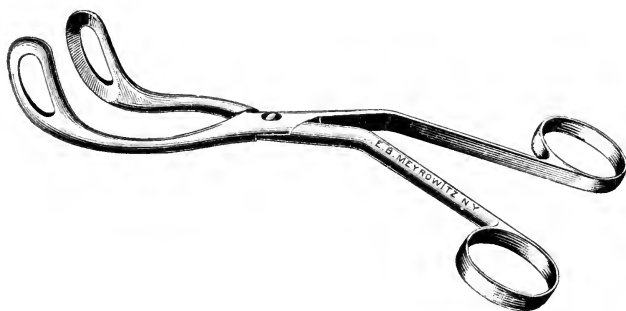
The apparatus can be secured by communicating with W. A. Heckard, 28 East Ohio street, Indianapolis, Ind.

Willoughby Building.

AN ADENOID FORCEPS.

BY CHAS. H. KNIGHT, M.D., NEW YORK.

An attempt has been made to combine in this forceps the good features of several other instruments. In the first place the blades are large and have extensive and sharp cutting edges. They are, there-



fore, capable of rapid execution, so that but few insertions of the instrument are necessary. Under the partial anæsthesia desirable in adenoid cases, it is certainly an advantage to be able to operate quickly. The blades being well rounded are found to pass into the naso-pharynx with perfect ease even in young children.

The handles are furnished with rings, to give better control, and are placed at such an angle as to permit the hand of the operator to assume an easy, natural position.

The joint is placed well back on the handles in order that a slight separation of the fingers may insure a wide opening of the blades.

The curves of the shank obviate the danger of nipping the uvula when the blades are closed.

The instrument is made as light as possible consistently with strength and efficiency. A heavy forceps gives greater power at a sacrifice of the tactile sense, whereas a light one enables the operator to feel more accurately what he is doing.

No claim for originality is made, but the instrument is presented because it has given me more satisfaction than any other that has come to my notice.

147 West 57th street.

For Inhalation in Catarrh of the Upper Air Passages.

Dr. Kafemann recommends as extremely effective the following combination: Menthol, 4 pints; eucalyptol, $2\frac{1}{2}$; turpinol, 2; essence of pine, 1. (*Semaine Med.*, Nov. 17, 1897.) A few drops of this liquid are poured into a bottle, which is warmed over an alcohol flame. Balsamic vapors immediately fill the bottle and these the patient inhales through a tube.

SCHEPPEGRELL.

A "WRINKLE."

BY J. A. PRATT, M.D., AURORA, ILL.

We frequently wish to make a continuous application of heat or cold to some part of the neck or head, and find it exceedingly inconvenient to change the cloths employed, while the result is not as satisfactory as when the temperature is even and of the degree we wish.

I have found it convenient to have a number of the following devices to loan out in accident cases, etc.:

Take five yards of one-quarter-inch rubber tubing and make a compact coil about three and one-half inches in diameter, leaving two yards for the inflow and one yard for the outflow. The weight is minimum and, with syphon, action can be obtained, dry or moist, heat or cold, as desired.

These are easily made at the home and the results more than pay the trouble.

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EDITORIAL.

ASEPSIS IN OFFICE PRACTICE.

The necessity of asepsis in surgical practice is now so well established that the surgeon who does not carry out all its details is liable to severe condemnation.

In office practice, however, these rules are not so rigidly enforced, and a number of physicians have made themselves subject to criticism on this account. In the practice of ear, nose and throat diseases, the necessity of using aseptic instruments is clearly evident. Although the nasal mucus has undoubtedly some innate capacity of

resisting infection, we also know that the mucous membrane of the nose has great powers of absorption, as it is not infrequently seen when cocaine is applied. The mucous membrane of the throat and mouth also have this power of absorption, though to a less degree. The fact that specific infection has been carried by Eustachian catheters, and that mild forms of acute suppurative otitis media have been transformed into more violent types through the agency of ear speculums, is sufficient evidence of the necessity of using due precaution in this matter.

The instruments used in these cavities should therefore be prepared for each patient with every regard to asepsis. It is not sufficient to simply wash the tongue depressors, speculums and other instruments with water and place them in a weak carbolic solution before being used; they should first be thoroughly disinfected by placing them in a sterilizing apparatus for ten minutes. The writer has found an electric sterilizing apparatus convenient for this purpose.

This method will, of course, necessitate a number of extra instruments, but economy in this particular is by no means profitable. Patients soon realize who is and who is not careful in the preparation of his instruments, and a little adverse criticism in this respect may be productive of much harm.

In preparing solutions for syringing the ear, nostrils, or accessory cavities, the means usually adopted of judging the temperature, by the nurse inserting her finger, is neither accurate nor clean. Heat and cold are relative conditions, and if the hand which is testing the solution has just previously been in cold water, warm water will appear hot and vice versa. The solution should be mixed with a sterilized glass rod, and the temperature ascertained by means of a chemical thermometer. A temperature of 105 degrees F. will be found the best suited to the majority of cases, although 110 degrees is usually not disagreeable and often preferable, especially in acute inflammatory conditions.

Not only should the instruments of the physician be kept in proper condition, but the same rule applies to every part of his office. A dusty neglected apartment is very apt to leave its impress on the mind of the patient, who will probably judge the physician and his instruments by the same standard. Success in this branch of medicine, as in others, depends upon close application and attention to details, and the proper care of the instruments and fixtures of an office is by no means the least of these.

SCHEPPEGRELL.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

December, 1897. Joseph W. Gleitsmann, M.D., Chairman; T. P. Berens, M.D., Secretary.

Dr. Robert C. Myles presented to the Section a boy upon whom he had operated for deflected septum by Gleason's U method. The boy first presented himself at the clinic two months ago with a deflected septum, and his condition was so extreme that no air could be drawn through the nostril. He performed Gleason's U operation. After he had sawed through the septum and had gotten the part to hang by that part which represented the open space of the letter U, he had some difficulty in pushing it through into the concave nostril; but when it did go through, it did so with a "pop." The mucous membrane of the convex side was in contact with the cut surface along the nasal spine of the superior maxillary bone, and the mucous membrane united with the cut surface without having been absorbed. Since the operation he has had perfect breathing, and there has occurred perfect union throughout. He was astonished at the behavior and the good results obtained. Any other cutting operation was more severe. The doctor considered this operation quite simple and the results very good, and adapted to this particular class of cases.

Dr. Francis J. Quinlan expected to show the Section a typical case of pharyngo-laryngo-mycosis, but the case had disappeared; he hoped to be able to show him at the next meeting of the Section. The case was a typical one of the disease, the spores showing from the lateral walls and base of the tongue, and he thought the picture was a typical one.

Dr. Knight asked Dr. Myles if the intra-nasal tube was necessary; he understood Dr. Gleason to say that it was not.

Dr. Myles answered that the tube was not really necessary. In such extreme cases where there was so much resistance in the upper part, he preferred to use a tube that stayed in without pressure. Any extra pressure will prevent union.

Dr. Robert C. Myles presented several patterns of punch and die forceps, which were to be considered in connection with his paper

which he was to read later. Three of them were of his own construction. One was made after the Farlow pattern, made by Meyrowitz: one is an adaptation of the Gradle adenoid forceps handle, which is very strong, and will remove the average tonsillar tissue cleanly and without the usual dragging of the fibrous tissue; made by Ermold. He also presented Teet's and Hartman's punch forceps, which he sometimes used. A vulsellum and tenaculum hook he had found very serviceable. He called the attention of the Section to one knife which he recently had had constructed by Ermold. It was 7 inches long, had a slender shank about $3\frac{1}{2}$ inches in length and $3\frac{1}{2}$ inches of flat handle. It was made in the shape of a scythe, forming a complete half circle, the diameter of the circle being about six millimeters. It was so constructed that the one knife will serve for severing the tonsils from their investing sheaths on either side. For instance, on the right it cuts upward and on the left it cuts downward: it will also cut by turning the handle, or moving it either upward or downward. He endorsed it as a complete success. The speaker also recommended the probe-pointed knife, presented some time ago by Dr. Beamon Douglas, which was especially useful in splitting open crypts.

Several other instruments were presented by Dr. Myles.

Dr. D. Bryson Delavan presented some improved electric needles, both uni-polar and bi-polar. He also presented an original device for holding the above and for connecting them with the conducting wires. These instruments were intended for the application of electrolysis to the nasal cavity and, in certain cases, to the pharynx. The object aimed at in their construction had been to make the whole apparatus so light that the needle, or needles, could be inserted into the tissues and allowed to remain there during the passage of the electric current without being held by the hand of the operator. To make this possible, the old-fashioned handle, with switch, etc., had been entirely done away with and a very small and light socket substituted. The conducting wires had also been reduced to the finest size, and were as light as they could well be made. The use of the switch is generally not necessary in this work, as it is a better practice to insert the needles first and then slowly and carefully apply the current. The needles which accompanied this apparatus were of the very best and finest workmanship. They were made of platinum-iridium and had been constructed in assorted sizes and lengths. Some were cylindrical and others flattened. The instruments had been constructed by Mr. J. C. Vetter, of Meyrowitz & Co., from suggestions made by the speaker.

Dr. Joseph W. Gleitsmann gave a demonstration of Kirstein's latest improved instruments for simplifying autoscopy. It was the method that Dr. Kirstein showed to him last summer. He said that two years ago he had the honor of demonstrating the use of the instrument before the Section. The instrument was one that enabled one to get a view of the larynx very easily; another feature of the instrument was that it enabled other physicians to get a view through at same time. The light attachments were also shown. The whole instrument really consisted of but little else than a tongue depressor, with the proper light attachments.

Dr. Gleitsmann also showed another instrument which Dr. Teube demonstrated at Moscow. He found it a very useful instrument. It was for the purpose of making applications to the larynx of nitrate of silver. Nitrate of silver was fused on the end of the instrument; the instrument itself was filled with a solution of chloride of sodium; after applying the silver nitrate to the parts its action is stopped by the injection from the syringe of the chloride of sodium solution, which neutralizes the silver. The instrument was made in Berlin.

Dr. Robert C. Myles presented an anatomical wet specimen, showing the relation of the carotid and ascending pharyngeal arteries to the tonsils. A section had been made on each side through the posterior lateral wall of the oro-pharynx, and a string had been placed around the artery. This demonstrated that the artery, in this specimen, in its normal position, is situated from one and one-eighth of an inch to one and one-fourth of an inch posterior to that part of the palate which is usually selected for the incision in peritonsillar abscesses. It was also noted that the artery was from one-fourth to one-third of an inch external to this line of incision when made antero-posteriorly. The tonsil was dissected from its basic capsule and was still attached to the inferior part of its receptacle; this shows a peritonsillar space and a rather extensive area, in which pus may accumulate anterior to the superior constrictor muscle, and also the avenue through which pus may burrow through and under the anterior inferior edge of the superior constrictor muscle.

The vessels had been injected with a mixture of linseed oil, whitening and carmine.

Basil and Basilateral Diseases of the Faucial Tonsils, with Improved Instruments for Treatment of Same.

A single reference to the Index Medicus will show the faucial tonsils to have been a perennial source of attack, not only for any bacterial and other inflammations, but also for the laryngologist anxious for the subject of a paper.

As I have said, over-much has been written about these organs, and while I hesitate to approach the subject, I think I am justified in calling your attention to the pathological conditions at the base and at the contiguous sides of these troublesome organs, which are often overlooked and neglected.

I have seen diseases in the above mentioned areas, of which neither the anatomo-pathological conditions are adequately described, nor the details of what I consider a correct surgical treatment for them, given in a manner which is withal complete and sufficiently forcible. Most writers in describing one of these conditions of which I treat, speak of them as adhesions to the pillars of the fauces. Now, it is this condition which I claim is very rarely found, and is of little pathological importance. The conditions, which I shall consider, are first an hypertrophy of the tonsils, extending outwardly and laterly into the tissues of the neck or ora-pharynx and soft-palate, as distinguished from those cases where the tonsils extend into the free pharyngeal space, and are more or less pedunculated.

The anatomy of the tonsils, their structure and their relations to the blood vessels and contiguous tissues, are of importance in this connection. They belong, generally speaking, to the lymphatic system, the mucous membrane and the epithelium of the mouth and throat dipping into and lining the crypts of the gland. It was Delavan, we believe, who first called attention to the fact that the epithelium at the base of the glands was much thinner than at their top sides, which goes to account for the ready absorption of septic material, and explains the fact that diseases of this part of the organ are much more liable to spread to the neighboring parts and to produce general infection.

The physiology and functions of the tonsils need not detain us. Many theories and plausible suggestions have been advanced, but none have been scientifically sustained. The oldest advocates contend that the tonsils secrete a substance which aids deglutition; others, that the tonsils are blood-elaborating organs; and still others, that they are the habitat of phagocytes, acting as sentinels, to prevent foreign matter from entering the body, either through the throat or through the blood.

The causation of tonsil hypertrophy and disease has been the source of volumes of useless discussion. It seems to be the nature of lymphoid tissue in certain individuals to undergo hypertrophy. In the tonsils of one case, for instance, the hypertrophy will be confined chiefly to the apex; in others, it is confined exclusively to the base, and it may be in another case in both the apex and the base. The

rheumatic theory concerning the causation of tonsilar disease has been advocated by able writers. They, however, rely much more upon a surgical than upon the rheumatic treatment. The tonsilar tissue, in my opinion, becomes thickened by repeated inflammatory conditions, and by a peculiar disposition of the individual to adenoid hypertrophy. The functions of the glands become perverted by the mechanical pressure and form a favorable nidus for bacterial activity, and we find, as a result, basic hypertrophy, retained secretions and purulent collections.

Naturally, the hypertrophy of which I am particularly speaking, is found at the base or on the sides of the tonsil; that is, basic or basilateral hypertrophy, which pushes out the tonsil into the pharyngeal space, carrying with it the faucial pillars, and giving the appearance of an attachment from inflammatory process having been formed between the tonsil and the pillars.

It is in such cases as these that the diagnosis needs careful attention, and they frequently present obscure symptoms, which require much practical skill to determine the relationship between cause and effect, and it is often difficult to decide how much of this tissue should be removed, especially where the enlarged organ presses upon and makes tense the mucous membrane itself and the fibrous and connective tissue of the subjacent investing sheath.

The symptoms in cases of basic hypertrophy are a peculiar pharyngeal cough, a soreness in swallowing, dull, aching sensations extending upward toward the ear, redness and tenderness of the faucial pillars, protrusion of the tonsilla wall toward the median line, and occasionally a discharge of an offensive, cheesy matter from some part of the tonsils.

In my experience, a small, dull curette passed into a crypt of the tonsil, together with the palpation, usually serves to make positive a diagnosis. Where the tonsil lies deeply within the cavity, between the pillars, the anterior pillar should be drawn forward with a dull hook. This manipulation usually causes the patient to gag, and the superficial face of the crypts will be prominently brought into view.

In the treatment of these cases of hypertrophy of the basic parts of the tonsil (I apply this description to those cases where the tonsil does not extend beyond the margin of the pharyngeal mucous membrane or the opercular fold of Harrison Allen) it is my practice partly to dissect out before excising the offending gland. For some time I used the electric cautery for this purpose, but not always with success. Later I used different forms of punch and die, or a Ron-geur forcep, in conjunction with an electric or a cold snare and knife.

As a rule, this treatment gave excellent results in certain cases; was followed by severe inflammation from the burning of the capsule or the pillars, with the electric cautery. I, therefore, abandoned this procedure for the average case and now use delicate knives, such as I have here, to dissect the lymphoid tissue from the pharyngeal mucous membrane, and from its own fibrous investing sheath. The operation is briefly as follows:

The tongue being depressed by patient or assistant the tonsil is seized with a tenaculum or vulsella forceps. The knife is then inserted to a depth of three to six millimeters and passed through the anterior and posterior margins of the tonsil, thereby severing the connection between it and the pharyngeal mucous membrane. I should have said, that from five to ten minutes before operating, apply very strong solutions of cocaine (twenty per cent. to saturation) over the parts and also inject a two per cent. or a Schleich solution hypodermically. In each case I proceed with the operation only so far as the conditions justify, removing as much of the diseased tissue in one operation as seems expedient. Some cases require but few visits, about a week apart; but others, especially in frail and delicate women, where the hypertrophy has extended deeply into the neck, the course of treatment should be extended over a much longer time. I have never, personally, had a serious hemorrhage in these cases, which may be due to the law of average, or because I have not wounded the capsular sheath, and I have found that when the dissection and excision are cleverly done the result is extremely satisfactory. After the operation strong antiseptic mouth-washes should be prescribed and used.

Dr. Hodentyl has kindly assisted me in the preparation of some microscopic slides from a specimen obtained from a case of basic tonsillar hypertrophy, and these seem to show that what we have been accustomed to call adhesions between the pillars and the tonsil are in reality only the normal attachments of the tonsils to the mucous membrane capsule, where the normal relation between them has been altered through the mass having been pushed out into the pharyngeal space by the hypertrophy of the base of the tonsil.

When the disease area of the tonsil is confined to a few central crypts, I have found the most effective method of treatment to be excision with the author's lateral punch forceps. The upper beak I insert into the crypts, and after excising the intervening tissue, I make a deep excavation with a small electric point. In still other cases the hypertrophy seems to take place chiefly near the margins of the mucous membrane and the lateral investing sheath, and there is oc-

casional retention of secretion. The tension in such cases will be relieved by a simple incision between the tonsil and capsular sheath and sometimes indirectly causes the glands to atrophy by lessening the blood supply. In cases of children where tonsils grow again after removal, I have found that they were ones of basic hypertrophic. It has been my practice in such cases, after having loosened the capsule with a knife as far as possible, and having excised the tonsil with a guillotine, to excise the base with some form of punch forceps. In cases of peritonsillar abscess I am accustomed first to apply cocaine to the region, and after carefully marking the base of the tonsil with the index finger, I insert a hypodermic needle in the soft palate at the most suspicious part, and two millimeters external to the firm margin of the base of the tonsil I endeavor, so far as possible in this procedure, to so manipulate the syringe that about one drop of a four per cent. solution should be inserted in every three millimeters of the tissues. The needle being gradually pushed deeper, say to about three-quarters of an inch, unless it enters an unresisting cavity sooner. As rapidly as possible, I then pass along the tract of the needle to the depth of a quarter to a third of an inch a sharp protected Gräfe knife, with which an incision is made. If I find no pus, more cocaine is used and the tissues are teased apart with a probe or other dull instrument to a depth of from one-half to three-quarters of an inch, naturally following the direction toward the region of most concentrated inflammation.

In my experience, after this procedure, on the second or third day, I am usually awarded by the discharge of pinkish pale fluid, which in its turn, in a day or two, is changed to a thick purulent outflow. If the pus is external to the tonsil it is usually found by this method after the fourth day from the onset of the disease, and if the focus of the inflammatory action is in the region of the posterior pillar, it is usually reached with more difficulty and later in the course of the disease. The preventive treatment in these cases is the same that I use in cases of basic hypertrophy, except that both varieties of condensed and hypertrophied hyperplastic tissue in the region of the basic capsule is removed.

With regard to the basic diseases caused by syphilis, malignant growths, calculi, elongated styloid processes, bone in the tonsil, etc., I need not detain you except to say that I have come across, in several cases, hidden gumma in the base of the tonsil which specific treatment has cleared up in a few weeks. I remember that I have had two cases of ulceration which I was led to attribute to a disturbance of the nerves. Of bone in the tonsil, due to exostosis of the angle of the

inferior maxillary bone, or to an elongation of the styloid process, I have seen several. I removed in one a part of the exostosis of the inferior maxillary thereby greatly relieving the patient.

DISCUSSION.

Dr. Knight said that he had but little to criticise. He wished that the reader of the paper had gone more fully into cases of recurrent lacunar amygdalitis after excision of the tonsil. He had been unfortunate in the last few days in having a case of that sort; the case was now convalescing, but at no time could he pronounce it free from the risks of inflammatory processes in the stump of the tonsil. He thought that if we destroyed the crypts we might correct the tendency to suppurative inflammation. The difficulty is to accomplish the radical destruction of the crypts.

Doubtless the electric-cautery is one of our best resources in this line, but it must be admitted that the fortitude and patience required in undergoing a prolonged course of treatment are exceptional.

He complimented Dr. Myles upon the anatomical specimen presented. He thought it was instructive and shows that the common carotid artery is far away and not in danger of being wounded in a judicious incision of a peritonsillar abscess.

Dr. Emil Mayer said that he failed to note any remarks by the reader of the paper on the preventive or abortive treatment of acute or peritonsillitis. There was no question whatever in the speaker's mind that immediately upon the invasion of the disease, before pus was formed, that attacks of "quinsy" could be prevented from going further. We had seen patients relieved in twenty-four hours, when every indication pointed to the usual ten days of intense suffering, by the use of morphia and veratrum.

We had procured a Farlow tonsil punch and considered it an excellent instrument for basilar hypertrophies, and more especially for such broad tonsillar hypertrophies where the tonsil would not engage in the tonsilotome. The use of the galvano-cautery was of much value where a cutting operation was not permitted. He did not think that any discussion on this subject was complete without drawing attention to the danger of hemorrhage in adults. A case had occurred in his practice where, after a double tonsilotomy in an adult, hemorrhage of an alarming character had occurred five days after operation. The hemorrhage was very severe and required constant pressure and careful watching for some days thereafter. There was no recurrence of the hemorrhage. He was never satisfied as to the cause of the hemorrhage so long after operation.

Dr. Adolph Rupp spoke from the point of view of the general prac-

itioner and said that what the reader had told us, and that which had been said by some of the speakers, concerning the etiology of peritonsillar inflammation, rather puzzled than enlightened the general practitioner. Peritonsillar abscesses are usually believed to be secondary, but by no means all cases of peritonsillar inflammation become peritonsillar abscesses. He had in his care now two cases of tonsilitis and peritonsillar inflammation which will not become peritonsillar abscesses. The cases related by Dr. Myles are out of the ordinary run of cases, as seen in the practice of the general practitioner. In all these cases there is an unknown element at work besides the factors that have been dwelt upon. Dr. Lozucki, reporting from Sokolowski's clinic at Warsaw, found the staphylococci predominate at the beginning of these septic tonsillar troubles, and at the height the streptococci were in the majority to be again outnumbered in the decline by staphylococci. This looked like a battle of cocci of varying virulence—how much all this reflected on etiology and treatment it was hard to say. When the speaker was a student, a teacher of his advised against opening tonsillar or peritonsillar abscesses for fear of inducing pyæmia—but it is a fact that pyæmic troubles following these abscesses are of the extremist rarity. Dr. Rupp stated that he himself had been troubled with peritonsillar abscesses at intervals of six (6) and eight (8) years, and that he had not undergone any such operations for radical cure as had been described by Dr. Myles because his tonsils were all right after the attacks.

Dr. Phillips said that he had been much interested both in the paper and in the discussion.

For some years he had rarely used the tonsilotome in adults for two reasons: first, on account of the occasional troublesome and even dangerous hemorrhage, and second, because he had in most cases been able to accomplish the desired results by means of the galvanocautery in its various forms.

He could not see that the reader of the paper had called attention to any special form of hypertrophy of the tonsil, unless those cases where the tonsil is almost covered by the pillars might be so considered.

In his experience a careful destruction of the tonsil, destroying the partitions between the crypts by means of the cautery, together with breaking up of adhesions between the pillars and the tonsil, had successfully led to cessation of all inflammatory attacks.

There were, of course, rare exceptions and it would seem to him that only in such cases would it be necessary or advisable to resort to the heroic measures advised by Dr. Myles. He had recently removed a large section of an enormously hypertrophied tonsil from a

patient thirty-two years of age by means of the tonsilotome, and one week afterward there had been no apparent retraction; the base stood out prominently with wide-open crypts. As this patient had been a great sufferer from attacks of suppurative tonsilitis he felt that he must resort to some method which would accomplish a complete removal, and he had no doubt, the instrument, as devised by Dr. Myles, would prove useful.

Dr. Simpson thought that there was a loose application of terms—peritonsilar abscess with hemorrhage of tonsil. He had thought that they were two different things; one in the tonsil and the other in the peritonsilar tissue.

Dr. Berens asked Dr. Mayer if secondary hemorrhage could not result from the use of the cautery as well as of the galvano-cautery. The only severe hemorrhage he had seen resulted from the use of the galvano-cautery snare. It occurred on the sixth day after operation.

He asked Dr. Myles why he did not add to his collection of instruments polypi forceps and scissors curved on the flat.

Dr. Mayer said that the platinum loop should be heated to a cherry-red when the tonsil is to be removed by galvano-cautery. The procedure should be very slow indeed.

Dr. Berens answered that he referred to the hemorrhage from the use of both.

Dr. Harris thought that the Section was drifting away from the subject under consideration.

The question of staphylococcus and streptococcus infection was a very interesting one. He then briefly referred to the manner in which a peritonsilar abscess could be formed from a simple tonsilitis; the tonsil being firmly adherent, the outlet for the pus was in this region.

Dr. Myles was glad that the discussion had brought out so many valuable points. In those cases referred to by Dr. Knight as follicular.

The hypertrophied pedunculated forms did not come within the scope of the paper but generally cut close with guillotine and only a small base is left. In those cases referred to as basic follicular ones he uses the punch forceps.

In regard to Dr. Mayer's idea about septic bacteria the speaker did not think internal medicine would stop the trouble; some pathologists claimed that the ducts were occluded or obliterated; the trouble was certainly at the base of the tonsil. The pus forms in there and cannot get out; the phagocytes or leucocytes should not stop the process. Quinsy or peritonsilar abscess was the result caused by the extension of infection from or through basic sheath into the peritonsilar space. He had never seen a case of peritonsilar abscess which was not associated with tonsilitis.

WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

The next meeting of the Association will take place in Chicago, April 7th and 8th.

The Committee of Arrangements report that all preparations have been made for a most successful meeting. It is expected that within a short time the programme will be ready for announcement.

The Railroad Associations have agreed to make a fare-and-a-third rate for the round trip.

Those members of the profession who are eligible to membership in any society recognized by the American Medical Association, and who have followed one of the specialties enumerated in the name of the association for three years, are eligible for membership and can make application, endorsed by some member, to the secretary.

Members of the association desiring to read papers at the coming meeting should send their name, with title of paper, to the undersigned.

The proceedings of the last meeting are now ready for distribution, and same will be sent as soon as the members remit the amount of their dues to the treasurer, Dr. W. L. Dayton, Lincoln, Neb.

Any information desired regarding the association can be obtained by writing to

DR. FRANK M. RUMBOLD, Secretary,
Century Building, St. Louis.

LARYNGOLOGICAL SOCIETY OF LONDON.

Fifth annual general meeting, Wednesday, January 12, 1898, at 5 p. m., at 20 Hanover Square, W.

BUSINESS.

1. Minutes of the last general meeting.
2. Appointment of scrutineers of the ballot.
3. Ballot of officers and Council for the ensuing year.
4. Report of the Council.
5. Treasurer's annual statement.
6. Librarian's report.
7. Election of Morbid Growths committee.
8. Other business.

ORDINARY MEETING—PROGRAMME.

1. Minutes of last ordinary meeting.

2. Nomination of new members.
3. Report of the Morbid Growths committee.
4. The following cases and specimens were shown:
 - Case 1. Prof. Kanthack (for Dr. Paul Bergengrün). The leprous lesions of the larynx and nose (with photographs, drawings and microscopic specimens).
 - Case 2. Mr. Henry T. Butlin. Pression diverticulum of the œsophagus.
 - Case 3. Mr. Cresswell Baber. Case of nasal hydrorrhœa; analysis of liquid.
 - Case 4. Mr. Ernest Waggett. Radical operation of frontal sinus disease.
 - Case 5. Mr. Ernest Waggett. New instrument: turbinotomy cautery.
 - Case 6. Mr. Walter Spencer. Trigeminal neuralgia relieved by turbinectomy.
 - Case 7. Dr. Lambert Lack. Spasmodic twitching of pharynx in a girl aged 20.
 - Case 8. Mr. Wyatt Wingrave. Microscopical specimens of the sub-pharyngeal cartilage.
 - Case 9. Dr. Herbert Tilley. Larynx of patient shown at the meeting of November 10, 1897.
 - Case 10. Dr. Herbert Tilley. Ulceration of palate in a female.
 - Case 11. Dr. Watson Williams. Specimen of formative osteitis with obliteration of the nasal passage.
 - Case 12. Dr. Adolph Bronner. Unusually large number of papillomata removed from a patient aged 50.
 - Case 13. Mr. Charters Symonds. Adductor paralysis in a man from malignant disease of the œsophagus.
 - Case 14. Mr. Charters Symonds. Man showing condition after removal of the right half of the larynx.

ST. CLAIR THOMSON, M.D., 28 Queen Anne Street, W.

HERBERT TILLEY, M.D., 64 Welbeck Street, W.

Honorable Secretaries.

N.B.—The annual dinner was held the same evening (*i.e.*, January 12th) at the Café Royal, at a quarter to eight.

The following is the list of officers and council of the Laryngological Society of London, elected for 1898:

President—H. Trentham Butlin, F.R.C.S.; *Vice-Presidents*—J. W. Bond, M.D., A. Bronner, M.D., H. De Havilland Hall, M.D., Scanes Spicer, M.D., T. J. Walker, M.D.; *Treasurer*—W. J. Walsham, F.R.C.S.; *Librarian*—J. Dundas Grant, M.D.; *Secretaries*—Herbert Tilley, M.D., William Hill, M.D.; *Council*—A. A. Kanthack, M.D., Sir F. Semon, M.D., W. R. H. Stewart, F.R.C.S., St. Clair Thomson, M.D., P. Watson Williams, M.D.

ANNOUNCEMENT.

The last meeting of the Laryngological Section, New York Academy of Medicine, for the year 1897, was held on December 22. The retiring chairman, Dr. J. W. Gleitsmann, expressed in well-chosen words his sincere appreciation for the earnest co-operation of the gentlemen of the Section during the past season. Owing to other duties, he was compelled to decline a renomination, but trusted that the good work accomplished by the Section would continue in the same progressive spirit.

Dr. Jonathan Wright, of Brooklyn, was then unanimously elected chairman for the coming year.

At the close of the meeting, Dr. Gleitsmann invited the members and guests to an enjoyable collation, which was served in the banquet hall of the Academy. After repeated requests, the host finally responded with a few happy remarks. His words bespoke the pleasant harmonious relationship existing between the members and himself, and embodied the touching sentiment that this same feeling of good-fellowship might continue undisturbed.

ST. LOUIS LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

A local laryngological and otological society has been organized in St. Louis, and the following officers elected for the season of 1898: President, Dr. J. C. Mulhall; Vice-President, Dr. J. B. Shapleigh; Secretary, Dr. F. M. Rumbold; Treasurer, Dr. A. S. Barnes, Jr.; Executive Committee, Drs. M. A. Goldstein, F. C. Ewing and J. A. J. James.

It is intended to hold scientific meetings once a month.

At the January meeting, Dr. Mulhall presented a carefully-prepared paper on "Laryngeal Vertigo," and Dr. Goldstein a paper on "Exostosis of the External Auditory Canal." Dr. Loeb showed an interesting case wherein there had been so much loss of nasal tissue that the orifice of the Eustachian tubes were visible on direct inspection.

The above papers will appear in our next issue.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

The Clinical and Pathological Interpretations of Tic.

In a discussion which followed the reading of the above paper before the New York Academy of Medicine, Dr. A. Jacobi remarked that he had observed a great many cases which were caused by degeneration of the mucous membrane and submucous tissue of the nose.—(*Medical News*, Dec. 11, 1897.)

This, he claimed, was due to the intimate connection of the out-lying branches of the trigeminus, with possible reflexes—many cases were cured by nasal and post-nasal treatment. He is convinced that epileptic attacks may be due to nasal irritation. LEDERMAN.

A New Method for the Relief of Certain Enlargements of the Turbinated Bodies.

Where the swelling is not due to true hypertrophy, but to an engorgement of the tissue, the author recommends a submucous incision. A long, thin needle-shaped knife is passed through a small opening in the anterior portion of the swelling, after the spot has been cocaineized, and carried along under the mucous membrane with the blade pointing toward the submucous tissue. This tissue is then gently incised. The knife is then withdrawn through the original incision. The intention of this procedure is not to destroy a large number of blood vessels, but only as many as may be required to sufficiently reduce the swelling. Two punctures are enough for one sitting. No reaction follows this treatment and no mucous membrane is destroyed.—Dr. D. B. Delavan.—(*N. Y. Med. Journ.*, Dec. 11, 1897.) LEDERMAN.

Diagnosis and Treatment of Affections of the Frontal Sinuses.

Dr. F. Fehleisen, of San Francisco, states that the importance of the obstruction of the ductus naso-frontalis in chronic purulent processes of the frontal sinuses has been greatly overrated. (*Medical*

Record.) There are many reliable cases published in which frontal disease has lasted for years in spite of a free discharge of pus through the nose. Some cases will discharge through a fistula, although the ductus is patulous.

If the mucous membrane of the frontal sinus has undergone great changes, it is incapable of returning to its normal condition; therefore its radical removal is indicated.

Kuhnt has suggested that the bony edge of the sinus be bevelled as much as possible so that no bony cavity is left, but a shallow depression results, to which the soft parts can be pressed by a bandage. Of two cases treated, both recovered within one month. After opening the cavity, Kuhnt decides whether to remove the mucous membrane or to drain the cavity.

Dr. Fehleisen, however, prefers the radical operation in all cases in which the opening of the ductus naso-frontalis by means of a sound proves unsuccessful. When the cavity has been obliterated in the manner described, this duct becomes superfluous and may even do harm by allowing inflammatory products of the nose to come in contact with the wound.

(While this radical operation may be required in certain aggravated cases, the resulting deformity will prevent it from becoming popular. It should be reserved for such cases, as for instance, when the more conservative method of Luc and its modification by Bryan prove unsuccessful.—Schepppegrell.)

Remarks on Exploratory Puncture of the Maxillary Sinus and the Serous Affection of this Cavity.

Dr. G. Krieb criticises the frequency of exploratory punctures of the antrum of Highmore, and doubts the harmlessness of this procedure. (*Archiv. f. Laryng., etc., No. 483.*) In a number of cases in which the operator first found a serous and afterward a purulent secretion, or in others in which the first attempt was negative and afterward successful, the author believes a possible causative relation exists between the two. Where a perforation is really demanded, Dr. Krieb prefers the middle meatus.

SCHEPPEGRELL.

LARYNGOLOGICAL.

Asthma and Insanity.

Dr. W. Warren, in *The Physician and Surgeon*, in a short, practical article on asthma, calls attention to the close relationship asthma often bears to insanity and the neuroses and that very often the asthmatic attack takes the place, in insane patients, of an neurotic attack.

General Review of Certain Vocal Defects (Blesite) and Their Varieties.

In this article, Dr. Chervin refers to a number of defects of pronunciation, characterized by the substitution, distortion or suppression of a consonant. (*La Voix Parlee et Chantee*, No. 89, May, 1897.) The varieties may be divided into the following groups: (1) Referring to the consonants, z, s, j, c, h; (2) referring to other consonants; (3) lisping; (4) bad pronunciation of vowels. Each one of these groups is carefully analyzed. SCHEPPEGRELI.

Complications of Influenza.

Dr. W. H. Sawyer, in *The Physician and Surgeon*, in an article on this subject, calls attention to the many apparently remote complications following an attack of influenza. Profound paralyzing effects on the sympathetic is often lasting, asthma, pneumonia, bronchitis, syncophy, thrombosis of some of the larger vessels, and even melancholia has followed an attack of this disease.

Throat Lesions in Enteric Fever.

In a series of four cases, the author calls attention to a peculiar circular shallow ulcer, with a stippled appearance, occurring in the fauces during the first week of the disease. Acute pharyngitis is also present. This specific ulceration may occur at a period before the diagnosis of typhoid fever can be easily made from other symptoms. In such cases the possibility of contagion by breath might occur. The throat lesions heal rapidly under an antiseptic spray. Laryngeal stenosis, occasionally resulting from perichondritis, in this disease have been reported.—Dr. Tresileau.—(*Jour. of L. R. et O.*, December, 1897.) LEDERMAN.

OTOLOGICAL.

Auricular Affections in Gout.

Dr. George Gelle, Jr., states that the lesions, which are usually of acute form, are generally catarrhal otitis media without suppuration, extending to the middle ear and exhibiting redness of the tympanum and of a portion of the bony wall with immobility of the chain of ossicles, really a form of auricular gout. (*Revue Hebdomadaire de L. R. and O.*, July, 1897.) In many gouty patients there is only a calcareous deposition into the tympanic membrane, or attacks of deafness with vertigo and tinnitus, the vertigo being of the labyrinthine form.

These manifestations are met with not only in distinctly gouty subjects, but also in those who have inherited a tendency to this affection. Constitutional as well as local treatment is recommended.

SCHEPPEGRELL.

Abscess of the Neck Consecutive to Suppurative Inflammation of the Middle Ear.

Dr. Broca favors the classification of Hamon du Fougerey who divides abscesses of the neck following otorrhœa into three classes: 1. Those in which the abscess is in direct continuity with the point of otitis. 2. Those in which the abscess is formed by a collection of pus in the jugular vein. 3. Those in which it is of glandular origin. (*Revue Hebdomadaire de Laryng., Otol. and Rhin.*, July, 1897.) He believes that Bezold's mastoiditis is less frequent than is stated by Fougerey.

Out of 200 cases, Broca met with only one of Bezold's mastoiditis, and this was doubtful. The lower portion of the petrous bone is liable to be attacked with otitis, followed by suppuration with destruction of the bony tissue, simulating the mastoiditis of Bezold, but this should be distinguished from the latter affection.

Cervical abscess from septic thrombosis of the jugular vein appeared to be more common than considered by Fougerey.

Broca recommends in every case of cervical abscess that it should be opened and its cavities explored for points of denuded carious bone, an unnecessary opening of the mastoid cells being thus avoided.

SCHEPPEGRELL.

Two Cases of Cerebral Abscess of Otitic Origin.

The first case reported by Gradenigo is of special interest. (*Ann. de Mal. de l'Or.*, No. 4, April, 1897.) A child of six years, who had long had an otorrhœa, suddenly began to suffer from pain in the

head and ear, accompanied by vomiting, chills, fever, loss of consciousness, bilateral optic neuritis, complete coma, etc., but without alteration of the soft tissue around the ear.

The usual mastoid operation was performed. This was followed by some improvement, but rigidity of the neck persisted; temperature, 100.4; pulse, 100°. Two days later a second operation was done. A large trochar-canula was forced through the dura mater, the portion corresponding to the tegmen tympani having been exposed. Six cubic centimeters of grayish fetid pus was aspirated. The abscess which was located in the third temporal convolution was easily opened. In spite of the appearance of a cerebral hernia on the third day and some symptoms of septic infection, the patient recovered. The staphylococci pyogenes aureus were found in the pus, and during the pyohemic period there was found in the blood of the patient also the lanceolated diplococci of Fraenkel.

SCHEPPEGRELL.

NEWS ITEMS.

Wedding Bells.

February 22d next is the day set for ushering into the ranks of the benedicts our ever-active and highly-esteemed Associate Editor, Dr. M. D. Lederman, of New York. THE LARYNGOSCOPE extends congratulation.

A New Work.

Dr. W. Scheppegrell's new work on "Electricity in Diseases of the Nose, Throat and Ear" is in press, and will soon be published. Dr. Scheppegrell's standing in oto-laryngology, as well as his recognized authority in electro-therapeutics, forms a combination which will make this work a valuable addition to the library of the specialist and general practitioner. The work is complete in all its details and is fully illustrated.

Dr. Louis C. Cline.

Dr. Louis C. Cline, of Indianapolis, has been elected President of the Marion County (Ind.) Medical Society.

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ORIGINAL COMMUNICATIONS.

THE CONTROL OF NASAL HEMORRHAGE.

BY E. R. GLEASON, M.D.

Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia.

In the January number of THE LARYNGOSCOPE, under the heading of "Selections from Current Medical Publications," rhinological reference is made to recent correspondence of Dr. T. M. Baird, addressed to the *Journal of the American Medical Association*, in which Dr. Baird calls attention to the superiority of oil over Monsel's solution, antipyrine and other substances in packing the nose for the control of nasal hemorrhage. As I have employed fluid cosmoline and alboline for the control of nasal hemorrhage for the past ten years, it is probable that the method described by Dr. Baird originated with me. In the second edition of my quiz compend—diseases of nose and throat—is an article describing a method of packing the nose with absorbent cotton, saturated with cosmoline or other bland oil, "the oil being superior to Monsel's solution or any styptic for preventing the escape of blood." Although I have not at hand the volume to refer to, I am under the impression that the paragraph quoted remained unchanged from the first edition of this little book, published in 1890. The idea of packing the nose with cotton, satu-

rated with oil, originated from Dr. D. Hayes Agnew's plan of packing the nose with ham fat. I had known this method to succeed in controlling nasal hemorrhage after other measures had failed, and it seemed as if absorbent cotton, soaked in cosmoline, must be equally effective and more cleanly and convenient.

Almost as important as the speedy control of severe nasal hemorrhage is the employment of a packing that can be removed in such a manner as to diminish pressure upon the bleeding spot *gradually*, and thus not bring about a recurrence of the hemorrhage when the packing is removed from the nose. This can be accomplished, as described in an editorial, signed by me, in the *Atlantic Medical Weekly*, September 5, 1896:

"The posterior naris may be efficiently occluded in the following manner: A strip of patent lint or muslin, one and one-half inches wide and eighteen inches long, is saturated with cosmoline, folded near one end over a probe and pushed through the bleeding nostril into the pharynx, and the probe withdrawn. The nose and pharynx are now occupied by a sort of bag, while the short and long ends of the strip of lint project from the anterior naris. The short end of the strip should be next to the septum, as the bleeding is probably from one of the septal vessels. The long end of the strip is then folded near the ala nasi over the probe and the loop carried into the bag within the nose and pharynx, which is gradually filled with loops of the strip of patent lint, thrust firmly into it by means of the probe. When all is finished the posterior naris is completely occluded by a compact mass which projects backward into the pharynx, surrounded by a sort of bag, which prevents any loop being displaced downward below the palate. From the anterior naris projects a loop next to the ala, while the two ends are next the septum. By traction upon the more lateral of these ends, loop after loop can be gently drawn from the nose.

"At the end of twelve hours the nasal mucous membrane has swollen to such an extent that the packing is very tight and the patient is exceedingly uncomfortable. A portion of the packing can now, with safety, be easily drawn from the nose. As soon as the slightest sign of bleeding occurs, the portion removed should be cut off with a pair of scissors, and the rest of the packing allowed to remain. This process can be repeated as often as is necessary to relieve excessive pressure within the nose. That portion of the lint which forms the outer coating or bag which surrounds the packing is, of course, removed last, and the place from which the bleeding proceeded hence remains protected and undisturbed until the last portion

of the strip of lint is removed from the nose. It is often not safe to remove this last part of the lint until the end of the second or third day."

Until within the last year or so I relied entirely upon the methods described above, and never knew them to fail to promptly and satisfactorily control all cases of nasal hemorrhage. During the past year, however, I have treated severe post operative nasal hemorrhage by simply wrapping a large piece of absorbent cotton loosely about a probe and thrust it, dripping with a fifteen volume solution of peroxide of hydrogen, along the floor of the nose until the pharynx was touched. The mass of cotton should be large enough to completely fill the inferior meatus. So great is the pressure caused by the *increase in bulk of the clot* already within the nose, and liberated gases, that it is necessary, in most cases, to hold the cotton in position for a few moments with the finger tip, during which time the probe is withdrawn. If necessary, the plug of cotton is then held in position by means of smaller pieces of absorbent cotton, saturated with peroxide, packed into the anterior naris in front of it. Thus far, this latter method has proved effective, and was also satisfactory in a case of hemophilia, where packing the posterior naris in the ordinary manner, with the aid of Belloque's canula, had failed to control nasal hemorrhage.

Although nasal hemorrhage can generally be controlled quickly and easily in the manner described above, by packing the nose with plugs of absorbent cotton dripping with peroxide of hydrogen, yet it will be observed that the method is defective, inasmuch as after the smaller masses of cotton are removed from the anterior portion of the naris, there yet remains a large plug of cotton which, if removed quickly, suddenly removes pressure from the bleeding spot and causes renewed hemorrhage. This accident can often be prevented by removing the mass of cotton very slowly, with steady, gentle traction exerted at intervals of two or three minutes in order that five or ten minutes elapse before the plug is entirely withdrawn from the nose.

In cases of severe nasal hemorrhage, it is well to allow at least twenty-four hours to elapse before removing the packing, and if hemorrhage then recurs to attempt to control it by the insertion of a smaller mass of cotton dripping with peroxide. It should be remembered that the parts have in the meanwhile become sore and tender so that every maneuver should be executed with the utmost gentleness. When nasal hemorrhage has been controlled by either of the methods described above, the patient should be cautioned not to touch the packing. If he presses from time to time a handkerchief against it,

a little blood will be squeezed out of the anterior portion of the packing, and when the pressure of the handkerchief is released, the packing will, to a certain extent, expand like a sponge and exert suction upon the wound and cause a renewed bleeding. In this manner the packing may finally become inadequate, while if it had been let alone it would have been amply sufficient to have controlled the hemorrhage.

If a little blood oozes through the packing at certain spots, it is best to touch such spots upon the anterior surface of the packing with a strong solution or a little powdered persulphate of iron. By repeating this procedure and allowing the parts to dry, the anterior surface of the plug finally becomes coated with a sort of black varnish, hard and glistening, through which no blood can ooze.

A Case of Naso-Pharyngeal Fibroma in an Aged Woman ; Treatment by the Curette ; Cure.

The patient was a woman of sixty years. The tumor had existed for twenty years and had a nasal prolongation. (*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, Dec. 18, 1897.) Dr. Gaudier removed the growth with the curette in the same manner as in adenoid vegetations. There was little hemorrhage and the patient rapidly recovered.

SCHEPPEGRELL.

The Treatment of Ozena by Choanal Tamponage.

The method advised by Dr. Kofemann is based on the bactericidal effects of menthol and eucalyptol. (*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, Dec. 25, 1897.) The novelty of the method consists in tamponing the choanal space by means of a rubber bag, so as to obtain the prolonged effect of the medicaments with the whole mucous membrane of the nose.

The bag is inflated by means of water which is kept at a sufficient pressure to occlude the naso-pharyngeal space. The patient is then placed in the horizontal position and the nasal fossa filled, by means of a syringe, with a solution containing menthol and eucalyptol. The patients soon become accustomed to this method, and appear to suffer very little inconvenience from its application.

SCHEPPEGRELL.

EPISTAXIS AS A SYMPTOMATIC COMPLICATION DURING RECENT DENGUE EPIDEMIC IN HOUSTON, TEXAS.*

JOSEPH A. MULLEN, M.D., HOUSTON, TEXAS.

Fellow of the American Laryngological, Rhinological and Otological Society.

Among other interesting and instructive clinical observations made during the recently passed epidemic in Houston, Texas, called by some yellow fever, and by the majority dengue, it was my good fortune to come in contact with a class of cases which, I hope, may prove of some interest to the Fellows of this association. The interest in the following appended cases depends solely upon the symptom epistaxis occurring during the epidemic, especially as it took place after subsidence of the fever and during convalescence, and not during pyrexia. The character of hemorrhage was general and local. The former was characterized by arterial oozing from the turbinal and septal mucous membrane, while the latter was confined to the cartilaginous septum and anterior end of inferior turbinate.

W. E., boy, aged ten years. Epistaxis occurred about forty-eight hours after all fever had subsided. Bleeding had been, more or less, recurring for three days. Anemia was marked. He spat and vomited clotted blood. Examination showed a small ulceration of the cartilaginous septum, superficial in extent. The ulceration was treated with fused chromic acid.

Case 2. L. B., aged seven years, boy. Was seized, after convalescence, and while on the street, with bleeding from the nose. An examination revealed a small superficial ulcer of the cartilaginous septum and bleeding from the anterior end of the inferior turbinate. Treatment same as preceding case.

Case 3. Boy, aged twelve years. Had sudden hemorrhage from left nose. The bleeding was general from the septum (no ulcer) and turbinates—a diffuse arterial oozing. The mucous membrane surfaces were painted with liquid chromic acid. Epistaxis ceased in several hours.

Cases 4 and 5 were boys also. The character and site of hemorrhage were the same as in case 1.

Case 6. Mrs. O., aged twenty-eight years. Bleeding came on about six days after convalescence began and was dependent upon a

*Read January 24th, 1898, at Albany, N. Y., before the Eastern Section of the American Laryngological, Rhinological and Otological Society.

small superficial ulcer of cartilaginous septum. Treatment with fused chromic acid.

Case 7. Mr. K., aged sixty years. Had been actively engaged after recovery from dengue when nasal hemorrhage began, recurring in character and very weakening. In this case there was also a small superficial ulcer of the cartilaginous septum. Fused chromic acid stopped the epistaxis.

The reports by medical friends in the city of a good many cases other than these reported prove this symptom to have been quite prevalent, alarming, and in one case fatal.

A Case of Retro-Pharyngeal Cyst.

Dr. Cesaris Demel reports the case of a retro-pharyngeal cyst which was found in a man who died from other causes. (*Grazz. degli Ospedeli*, July, 1897.) This cyst, about the size of a hen's egg, was in the supero-posterior angle of the pharynx behind the mucosa.

The histologic examination of the capsule showed great resemblance to the thyroid body, the cyst being filled with a tenacious mucus. Many nodules of the accessory thyroids were found around the cyst in the lateral region of the neck, thus demonstrating that it was the result of a cystic degeneration of one of these nodules.

SCHEPPEGRELL.

Twelve Cases of Primary Diphtheritic Rhinitis.

In twelve cases Dr. Eaman made a bacteriologic examination of the false membrane, and in each case found the bacillus of Loeffler. (*Revue Hebdomadaire de Laryng., d'Otol. & Rhin.*, Dec. 18, 1897.) All the cases recovered.

SCHEPPEGRELL.

FOREIGN BODY IN NOSTRIL FOR THREE AND A HALF OR FOUR YEARS.

BY CLARENCE R. DUFOUR, PHAR.D., M.D.

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ogist to Sibley Memorial Hospital; Assistant in Eye and Ear Department of
Central Dispensary and Emergency Hospital, and Instructor in
Ophthalmology and Otology; Georgetown Medical
College, Washington, D. C.

Fannie K. was referred to me by the family physician, on account of the gradual enlargement of her nose, especially in the right side, and of severe epistaxis, increasing in frequency and in amount of blood lost. The condition of the nose was first noticed when she was about three years old, and, as before mentioned, has been getting worse. She was seven years old when I first saw her. At that time the right side of nose was very much enlarged, and the nostril occluded. It was necessary to give her an anæsthetic in order to



make the examination, and with the consent of her parents, whatever was necessary was to be done at that time, if possible. I found the nostril occluded with a mass of granulations, which bled profusely upon the slightest touch. After clearing them away and arresting this hemorrhage I passed a probe into the nostril, which encountered a hard substance which was rough and felt like necrosed bone. Upon manipulation it became loose and I was able to remove it with forceps. After washing and removing the granulations which adhered to it I saw that it was a shoe button covered by calcareous incrustations (see photograph), which had been in the nostril between three and one-half and four years. The nostril was washed out with an antiseptic wash, the nose gradually assumed its normal size, the epistaxis ceased and the child's nose is now in its normal condition. I would state that the child had been seen by several physicians before being seen by the one who referred her to me. They advised washes and ointments, and did not seem to think that a growth or foreign body might be present.

1016 Fourteenth Street.

THE TEXAS SCREW-WORM—REPORT OF A FATAL CASE.

BY CHARLES M. ROBERTSON, A.M., M.D., DAVENPORT, IOWA.

In the October issue of THE LARYNGOSCOPE I noticed a report of a case caused by the Texas screw-worm. In the December number two or three additional cases were reported. I had just finished a talk with Dr. Ferry, of Geneseo, Ill., who reported to me a case as follows:

The patient, a male, æt. fifty-four, married, had recently located in Geneseo, having come from the Southwest. He was first seen by Dr. Ferry on October 9, when he found him with pulse 80, hard and full, temperature 101 degrees. He noticed the upper portion of his nose swollen to a considerable extent. There was an offensive odor and a bloody discharge coming from the nose. Patient complained of dizziness or staggering when locomotion was attempted. There was a constant desire to sleep. On October 10 the symptoms were all aggravated. Pulse 85, temperature 102. Patient unable to sit up. Dizziness accompanied by headache. More stupid, going to sleep while talking. The discharge more profuse, nose more swollen. Temperature toward evening ran up. Was given a dose of antikamnia, which relieved headache. Slept comfortably this night. October 11, symptoms same as on the 10th, save that his nose was swollen more and the discharge was more fetid and profuse. About 3 p. m. worms were first noticed. They appeared in the anterior nares on the right side. The lumen of the nostril was distended to one-half inch in diameter and filled with a wriggling mass, completely plugging the nostril. We began to pick them out with a slender forceps and, after removing a dozen or more of the seeming half hundred, those remaining disappeared as by magic, so that not a single one could be seen in the anterior nares. After allowing the patient to rest a few hours they showed themselves again, allowing some to be removed, after which they disappeared as before. On Monday night two were passed by stool dead. Patient did not complain of pain. Grew gradually worse, the coma becoming more profound. Tuesday, October 12, patient took little nourishment. Can be roused easily. Pulse 95, temperature 102. Wednesday, October 13, could be induced to take nourishment with difficulty only. More comatose. Can hardly rouse him. Tongue dry and parched. Base of brain and spinal column very hot. Pupils contracted; respond very little

to light. Thursday, October 14, pulse 100, temperature $102\frac{2}{5}$. Coma profound. Head thrown back and chin elevated. From this he grew gradually worse and died Friday, October 15, at 1 p. m.

In all, there were 120 worms removed, together with others that were found in his bed. The treatment administered was injections of listerine, hydrogen peroxide, perman. potass. and chloroform. None of the medicaments availed save the chloroform. The patient's symptoms simulated from the first some brain lesion, either abscess or septic poisoning, from absorption of septic matter. The patient was given stimulants, but to no avail. No autopsy could be obtained.

McKenzie, on diseases of the nose, gives a summary of all articles written on this subject up to the time of his publication, and in substance states as follows:

Though this affection is the cause of widespread suffering in tropical climes, it is scarcely met with in this climate. Elevated situations, even in tropics, are free from it. In Mexico it is not heard of above 4,200 feet altitude. Very few cases have been described as occurring in Europe.

ETIOLOGY.

This disease is caused by the hatching of eggs which have been laid within the nose by a fly. It is attracted by the foul odor of a chronic catarrhal inflammation, or a specific or atrophic rhinitis, or any disease which has for a symptom ozena.

McKenzie describes the fly under the name of *Luciliahominivora*. It is nine m.m. in length, with tawny palps. and a light tawny face. The cheeks are covered with golden-yellow down. The head is large, wider in front than behind. The thorax is blue, with black and yellow stripes, with an abdomen of the same color. The feet are black and the wings transparent. The larva is dull white, fourteen or fifteen m.m. in length by three or four m.m. in width. It is narrower in front, and is divided into eleven segments, the widest part of the body corresponding to the sixth segment. The head is indistinguishable from the first segment. Eyes are absent, and the mouth is formed by a sort of lip, on which are two protuberances, at the base of which, near the middle line, are two corneous mandibles. placed side by side, the mandibular hooklets being very sharp and separated outside, though closely united in the thickness of the tissues. On each side of the first segment there is a brown, corneous patch, which covers the orifice of the upper stigmata. At the base of each segment there is a projecting part covered with small spines, very numerous and close together. Each fly will deposit as many as 20,000 eggs.

SYMPTOMS.

After the deposit of the ova, which occurs usually in the heat of the day, the mucous membrane soon becomes irritable, a constant tickling is felt and sneezing is a common symptom. Shortly after this (forty-eight to sixty hours) comes a bloody, sanious discharge, frequently epistaxis, with a sensation of crawling referred to the nose. The patient complains of some frontal headache, occlusion of one or both nostrils, or at the root of the nose a pain, which has often the character of a throbbing one. This pain may intermit or remain constant, giving rise to most distressing insomnia, causing the patient to contemplate suicide. (Edema of the face and eyelids is characteristic. Swelling of the palate may take place. Small tumors, at times, appear over the nose and in adjacent parts, which open, or being opened, allow the escape of one or several larvæ. The patient becomes delirious and later comatose. General systemic symptoms appear and finally death ensues, preceded by symptoms referable to disturbance in the substance of the brain, septic poisoning or exhaustion.

DIAGNOSIS.

The diagnosis may be difficult until the larvæ appear, after which a mistake is impossible. The odor and bloody discharge would at once suggest a necrotic condition of the lining membrane.

PATHOLOGY

consists of a more or less total destruction of the mucous membrane lining the nasal and accessory cavities of the nose. It is, in the early stages, difficult to pick the larvæ from the mucous membrane, as they seem embedded in the tissue. They denude the bone and cartilage, and, in later stages, seem to burrow through the thin bony plates (whether before it is softened by necrosis or after is a question, but in cases that have resulted fatally, great numbers were found in the brain substance). In many instances the cerebral substance is injected and the ventricles filled with bloody serum, or the meninges were found of a deep red color and filled with blood.

PROGNOSIS

is favorable if the presence of the larvæ is detected early. If strict measures are adopted, and adopted early enough, most of them recover. Lahory met with but two fatalities in ninety-one cases. St. Pair lost two out of six cases.

TREATMENT.

Inhalations of chloroform are often sufficient to effect a cure, but it may be used by injection with equal parts of water. If this should fail, pure chloroform is extremely painful and the patient should be anæsthetized or a strong spray of cocaine used. Injections of tur-

pentine are of questionable value. Inflations of calomel or alum powder have been used with varying success. Sleep should be induced when necessary and relief of pain secured. The patient should be given stimulants and nutritious diet either by stomach enemata. Bichloride of mercury, 1-1,000, may be used, or Formalin, 1-10,000, by injection. Of course, all the larvæ are to be picked out with forceps, and often sneezing on the part of the patient will dislodge great numbers of the larvæ.

HISTORICAL.

Previous to the present century there are only a few examples of myasis of the nose on record.

Gahrlieb reported a case in which a peasant, afflicted with great pain in the forehead and root of nose, made a decoction, and after an epistaxis came on was followed by the expulsion of a number of large maggots.

Behrends treated a woman, suffering from unbearable headache and slight swelling of the nose, by injecting a decoction of tansy, rue and absinthe. Thirty maggots were brought away; cured.

Wolfahrt, twenty years later, in which a patient, suffering from terrific headache, was treated by inhalations of alcohol, and eighteen maggots were brought away. These were placed in a box and in thirty days developed into flies.

Tengmalan, fifty years later, related the case of an infant, eight months old, who expelled worms from the nose. (This, probably, was not a case of maggots under discussion.)

Toward the end of the last century, Azara had opportunity to observe several cases of maggots in the nose, in Paraguay. In 1830, MacGregor published a case having come in contact with the disease in India, and similar cases were reported by Lahory, Moore and Ohderder. It was also studied by Coquerel, in Cayenne, by Morel, Gonzalez, Jacob and Weber, in Mexico, and by Frautzius, in Costa Rica. In Europe, Mankiewicz reported a case which he had treated. Moquin Tandon related cases he had met in Italy. MacGregor had a patient who, for three months, felt a pain in his left cheek and inside the nostril. On blowing his nose violently some worms were expelled, which alarmed him very much, but gave him some relief. Subsequently his cheek swelled; a fetid, bloody discharge issued from his nose; he became greatly excited: had attacks of shivering, etc. Ammonia fumes were used to excite sneezing and about 100 larvæ were expelled. (See note.) Lahory, of India, wrote an article on peenash, indicating a disease of

NOTE.—They were about one-half m.m. in length, thinner in front than behind, and segmented. Without feet. They were white and had black spots at the posterior extremity.

the nose attended by maggots. He had seen it in all ages, from eight to eighty. Most common in hot weather, from July to September. He observed that bad food and dirt predisposed to the disease and it occurred mostly in flat noses. He described the symptoms as deep-seated, indescribable pain over the frontal sinuses, in the orbits and in the ears, with a crawling sensation inside the nose. Epistaxis occurred often. The patient had a disposition to hold the head down, and there was so much ecchymosis and swelling of the eyelids that vision was often obstructed. As the disease went on, ulceration of the nose took place and a large portion of the organ frequently sloughed away. There was often high fever with severe constitutional symptoms.

Coquerel, a surgeon in the French naval service, has given the most detailed report of cases treated by St. Pair and Chapnis, while stationed in Cayenne, in French Guiana. He saw no patients himself but had access to notes by others. The chief symptoms observed by him were fomication in the nose with severe frontal headache, accompanied, in some cases, by a sensation resembling blows with an iron bar. There was also swelling of the nose, extending over the face and especially involving the eyelids. Severe epistaxis was often met with and not infrequently there was considerable inflammation of the internal tissues of the nose, which, in some cases, spread to the meninges and caused death. Tumors occasionally occurred on the nose which opened spontaneously and from them large numbers of larvæ escaped. The noses were syringed by solutions of alum or decoctions of tobacco. In some of the cases reported by him, the amount of larvæ expelled amounted to 200 or 300. In the patients that recovered, the septum was frequently in a great measure destroyed and in many cases the nose was almost eaten away. Of six men treated by St. Pair, three died with symptoms of meningitis, whilst in two of the survivors the nose had completely disappeared, and in one it was terribly deformed. In the fatal cases, the meninges were found a deep red color and full of blood, especially at the base of the brain. The cerebral substance itself was injected and the ventricles full of bloody serum. One case, who had nearly recovered, was attacked by erysipelas of face and scalp, from which he died. In this case, at post-mortem, bundles of larvæ were found encrusted in the frontal and maxillary sinuses. (The patient probably died of septic disturbance, from poison taken up from decomposing larvæ, causing the erysipelas, which is one form of septic poisoning.) In this place, the surgeons generally insufflated alum or used injections of tobacco decoctions, but with indifferent success, as this too often

made the membrane puffy and closed the openings to the sinuses. He states, that if killed, the maggots often putrefy within the sinuses and thus give rise to new symptoms of septic poisoning. When there was reason to suspect that they had entered the frontal sinuses or the antrum, the Cayenne surgeons trephined these cavities.

In 1862, the French government sent a military expedition to Mexico to study diseases produced by the entrance of flies into the nose. Morel based his information on five cases, which came under his observation. He thinks that the fly always enters the nose during sleep, and found those with symptoms of *ozena* particularly liable to the disease. In four of his cases such symptoms existed, while in the fifth the patient was suffering from a boil close to the spot attacked. He observed that in the nasal fossæ the mucous membrane and all the tissues are reduced to a pulp, exposing the bones and cartilage, which soon becomes necrosed. He was the first to advocate the use of chloroform and water. It was used in equal parts and shaken well, being injected before it had time to separate. In the cases in which, he used this, recovery was rapid, save in one in which he tried it too late.

Jacob learned from the natives that the malady was tolerably common amongst them which they attributed to a neglected cold.

Frautzius, a German physician, practicing in Costa Rica, published some interesting remarks on the disease. He observed that sneezing was an early and constant symptom and attributed it to the tickling sensation caused by the gliding movement of the larvæ when they were seeking a suitable nidus. The other observations were also present.

Prince also reported a case in which much of the mucous membrane of the nasal cavities was destroyed.

Of recent date several cases have been reported, nearly all of whom originally hail from the Southwest. The disease is common in cattle, hogs and sheep. In the latter, all die from extension of larvæ into the meninges. They are found in very great numbers in the cerebral substance, their presence being due to their boring through the bone from the frontal, ethmoidal or sphenoidal sinuses or through the cribiform plate of the ethmoid. This either before the breaking down of the bony parts, by their boring propensity, or after the bony parts have become soft by necrotic changes. In the case cited, the man died from the presence of maggots in the brain substance, as noted by the symptoms cited.

The Texas screw-worm differs little from our blue-bottle fly, save that the larvæ are much thicker and have greater destructive power.

A NOTE ON THE ETIOLOGY OF ATROPHIC RHINITIS.

BY E. C. ELLETT, M.D.

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Memphis, Tenn.

There are two principal theories as to the cause of this most troublesome affection, one being that held and well championed by Dr. J. N. Mackenzie¹, of Baltimore, that atrophic rhinitis is the late stage of hypertrophic rhinitis, or rather that the two represent the hypertrophic and atrophic stages of nasal sclerosis, analogous to the cirrhotic processes in the liver. The other, and more generally entertained view, is that atrophic rhinitis is atrophic from the beginning, and is the effect of a pre-existing purulent rhinitis. This latter view is the one which I think has been demonstrated several times in my observation, though it does not fit all cases. It seems to be true that the inflammatory process often arises in the ethmoid cells, and the first manifestations of atrophy are in the region of the middle turbinated body. As mentioned by Casselberry², all cases of hypertrophic rhinitis do not go to an atrophic stage, and atrophic rhinitis occurs sometimes at too early an age to permit of a precedent hypertrophic stage. The assumption of Mackenzie that this may have occurred *in utero* is entirely theoretical, and is contrary to the accepted views of atmospheric conditions playing a part in the causation of this form of rhinitis. So, no one cause seems to act in all cases. I wish to record two series of cases, occurring in two families, in which I believe the conditions present in the different cases represent different stages in the same process, and show very prettily the transition from purulent to atrophic rhinitis.

In the first family are two children only. The father was a physician, now dead of tuberculosis.

Harold, aged six, was brought to me from their home in a neighboring county, in September, 1894. He had then been "sniffing" for some months. I found a profuse purulent discharge from the nose, without organic change in the nasal mucous membrane. The discharge seemed to come from the surface of the membrane, and there was no indication of involvement of any of the accessory sinuses. I was compelled to prescribe for him, and have the treatment carried out at home. An alkaline spray was ordered, and has been faithfully continued to the present time. He has also had, at

intervals, the compound stearate of zinc and euophen insufflated, but the principal part of the treatment was the alkaline spray. The following spring I again examined him and found but little change. He did not come to see me again for two years. In March, 1897, I saw him, and found a very healthy nose, with a little muco-purulent secretion in the region of the middle turbinated-body. There were no crusts and no odor. He continues to use the spray, and from other members of the family I hear that he is still in the same comfortable condition as when I last saw him.

Julia, aged seven, was seen in September, 1894, and is the sister of Harold. For more than a year she had had a nasal discharge. I found the same abundant purulent discharge as in Harold's case, but the mucous membrane was decidedly atrophic, the nose being unusually capacious. There was no crust formation, or odor. I gave her the same wash that I gave her brother. In spite of this I found crusts forming the following spring. More vigorous douching, with applications of various stimulants and the stearate of zinc and euophen powder, relieved this symptom. I have not been able to get her under my care for any length of time, but the above measures in the hands of the mother and the family physician keep away the crusts and odor, and in December, 1897, when I last saw her, the nasal mucous membrane, while distinctly atrophied, was moist, and free from crusts and odor. This state of affairs has existed for nearly a year, and I hope to find that thorough cleanliness will keep the conditions favorable.

The second series concerns three children of a family of eight. The mother died of an acute illness. The father, I am told, has "catarrh."

Clarence, aged six, was seen in the spring of 1897, with the history of a nasal discharge for one and a half years. This was abundant, thin, and yellow in color, without crusts or odor. Atrophy was probably beginning, as the noses were rather wider than usual in a child of his age. The discharge seemed to come from the nasal vault, but not from any accessory sinus. The condition was promptly relieved by cleanliness (spray), neglect of which causes a return of the discharge, which, during the summer, became flaky if neglected. I have seen this child recently, through an attack of acute otitis, and found the nose in quite a healthy condition.

Arthur, aged nine, brother of Clarence, had, for the same length of time, noticed an offensive nasal discharge. There were creamy flakes of pus on the middle turbinated body, and no evidence of organic change in the mucosa. The trouble yielded in less than a

month to careful instrumental cleansing and an alkaline spray, with applications of glycerole of iodine. He is reported to me as continuing well.

Katherine, aged eleven, was seen with her two brothers, and had a nasal discharge of some years standing. There was secretion of pus, which formed in creamy flakes and crusts on the middle turbinated body, especially the right. There was well-marked atrophy of the mucous membrane in both nares, but only occasionally any odor. The mucous membrane was tender and bled easily. I treated this case carefully for some weeks, with cleansing sprays, glycerole of iodine, tri-chloroacetic acid, eucrophen, etc., *including* tri-kresol-iodin, without benefit, except to keep the crusts away. This she continues to do with a spray at home, having discontinued treatment.

These cases seem to me to be, as I stated before, different steps in the same process, which goes steadily from a rhinitis, characterized only by a purulent discharge, to one characterized by atrophy of the Schneiderian membrane. The three boys represent the former, the girls the latter stage. This may be due to the fact that females are especially susceptible to the disease, as well as its longer standing in them.

Continental Building.

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1. J. N. Mackenzie.—Transactions Am. Laryngolog. Assoc., 1897.
Burnett's System of Diseases of Ear, Nose and Throat, Vol. I.
2. Casselberry.—Transactions of Am. Laryngolog. Assoc., 1897.

The Treatment of Common Colds.

Dr. Blondel recommends in the early stages the following treatment:

R	Tincture of aconite root.....	15 drops.
	Tincture of ipecac.....	2.5 drachms.
	Menthol	} aa..... 1.2 grains.
	Saccharin	
	Alcohol.....	10 drachms.
	Syrup of tolu.....	4 ounces.

Sig: Two or three teaspoonfuls to be taken at intervals of one hour after the two principal meals of the day. (*Revue de Therap.*)

EMPHYEMA OF THE ANTRUM OF HIGHMORE.

BY E. W. ROUGHTON, B.S. LOND., F.R.C.S. ENG.

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The antrum of Highmore is one of the accessory air sinuses of the nose, and its mucous lining is in direct continuity with the nasal mucosa. It is, therefore, not surprising that suppurative affection of the nose should lead to formation of pus in the antrum; the wonder is rather that the antrum so frequently escapes.

Although physiologically the teeth have nothing to do with the antrum, anatomically and pathologically, they are closely related, inasmuch as the roots of the upper molars are always near the floor of the antrum, and sometimes even perforate it; moreover, an alveolar abscess starting from these teeth frequently opens into the antrum. It is difficult to say whether empyema is more often of nasal or dental origin. Opinions differ, inasmuch as the nasal cases find their way to the rhinologist and the dental cases to the dentist.

Clinically, cases of empyema antri may be divided into two great classes, those with patent ostium and those in which the ostium is blocked. The former is the more common condition and the one to which I shall limit my subsequent remarks.

In most cases of empyema the patient complains of a discharge from one side of the nose. A unilateral purulent discharge should always suggest to one's mind foreign body and empyema of the antrum, the former being more common in children and the latter in adults. Of course, empyema may be bilateral, and there are other causes of unilateral nasal discharge, but that does not affect the value of the aphorism.

The nasal discharge in empyema is usually unilateral and affected by posture. In the recumbent position it runs into the throat, and is expectorated or swallowed. In the erect position the pus may pass into the throat or may appear at the anterior nares or may come away when the patient blows his nose. It runs away more copiously and freely when the head is inclined forward and toward the unaffected side. In some cases the discharge is swallowed and the patient is not aware that he has a nasal discharge, and the nature of the case is apt to be overlooked or mistaken for dyspepsia.

A purulent discharge from the nose always calls for careful exam-

ination by speculum and light. If the pus comes from the antrum it will be found in the middle meatus under cover of the middle turbinated bone.

In such cases the pus should be wiped away and the nose again examined after the patient has hung his head down and toward the unaffected side for a few minutes. If pus is found again in the same situation, it very probably comes from the antrum, but it may come from the frontal sinus or fronto-ethmoidal cells.

As it is not usually possible to make a definite diagnosis of empyema antri simply from the character of the nasal discharge, other methods of examination are made use of.

These are:

- (a) Transillumination of the face.
- (b) Catheterization through the ostium maxillare.
- (c) Percussion of the teeth.
- (d) Exploratory puncture.
- (e) Examination of the upper teeth.

(a) TRANSILLUMINATION OF THE FACE.

Transillumination is performed in a dark room by placing a small electric lamp inside the mouth. The facial bones being to some extent translucent, the face is illuminated and sometimes the pupils give a double reflex and light is doubly perceived by the patient. When one antrum contains pus, the affected side is less translucent than its fellow; the difference is not visible at the inner part of the lower eyelid. This method of examination is a useful aid to diagnosis, but is not in itself conclusive, inasmuch as antri vary in their translucency, and sometimes the two sides of the face may be irregularly translucent in health. Both sides of the face, at times, remain dark; this may be due to the presence of bilateral empyema, unusual opacity of the bones or insufficient candle-power in the lamp.

(b) CATHETERIZATION.

Catheterization of the antrum through its ostium is possible, but has not hitherto been found of much practical value.

(c) PERCUSSION OF THE TEETH.

I have sometimes noticed that on rattling a steel instrument against the upper teeth, the note yielded on the affected side is lacking in resonance and more like that given by the lower teeth, which are not, of course, in relation with any air-containing cavity.

(d) EXPLORATORY PUNCTURE.

Exploratory puncture, when it yields a positive result, of course, settles the diagnosis. The puncture may be made through the empty

socket of a tooth, through the canine fossa or through the inferior meatus of the nose. Antiseptic precautions should be used so as to avoid setting up suppuration in a healthy antrum.

(e) EXAMINATION OF THE UPPER TEETH.

It is important that the upper teeth should be carefully examined. A carious first molar is very likely to be the cause of the trouble. It must be remembered that any tooth in the upper jaw may sometimes involve the antrum. It is also important to bear in mind that a tooth which is quite free from caries may have a dead pulp and an alveolar abscess at its root. Such a tooth may mislead anyone not familiar with diseases of the teeth.

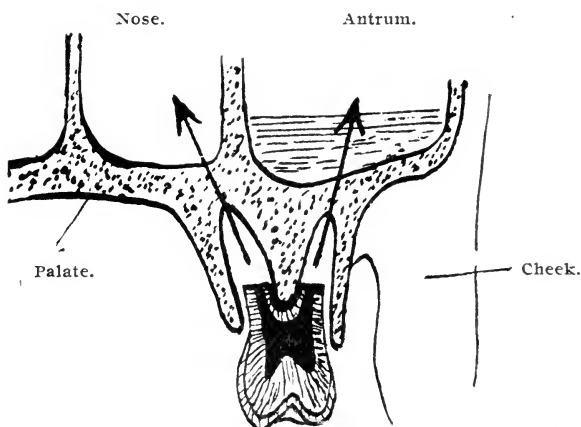


Figure 1. Showing the relation of the palatine and buccal sockets to the antrum and nasal floor.

TREATMENT.

The indications for treatment are:

- (a) Removal of cause.
- (b) Evacuation and drainage of pus.
- (c) Antiseptic irrigation.
- (d) Removal of morbid tissue, when present, from the antrum.

(a) REMOVAL OF CAUSE.

This necessitates treatment directed to the nose or teeth, the details of which need not be further considered in the present paper.

(b) DRAINAGE.

The antrum can be opened and drained through the nose, through an empty alveolus or through the canine fossa.

With many rhinologists the nasal route is the favorite method of draining the antrum. I have no experience of this method, as

most of my cases have been of dental origin, or have been sent to me by dentists. I have used the alveolar method of drainage almost exclusively. Even when the canine fossa operation is likely to become necessary, it is advisable to establish an alveolar drain, because an opening in the canine fossa, although well adapted for cleansing out the antrum, is unsuitable for drainage. Should the teeth be sound, the drainage should be provided for through the inferior meatus of the nose.

The alveolar opening may be made with one of the different forms of perforator sold for the purpose, or by means of a burr worked with the dental engine. The anterior buccal socket should be selected. It is possible to open the antrum through the inner or

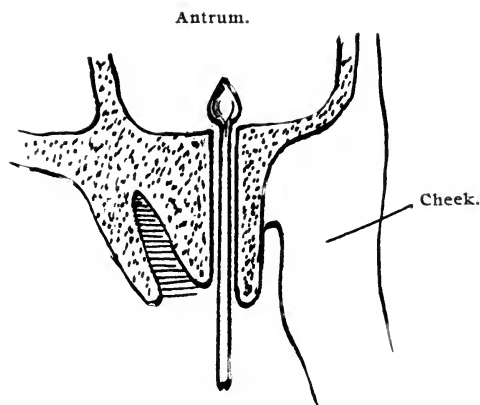


Figure 2. Method of measuring length of alveolar perforation.

palatine socket, but it is also possible to perforate the floor of the nose by mistake. (Fig. 1.)

When the opening has been made, an efficient drainage tube must be fitted and attached to the adjacent teeth. There are many kinds of alveolar tubes, most of them useless. To be efficient, an alveolar tube should have a lumen of not less than an eighth of an inch, should be the proper length and should have a plug which can be inserted at meal-times. The tube should be of such a length that its upper opening is flush with the floor of the antrum. The length of the alveolar perforation (and therefore of the tube that is to be fitted) can be measured by means of a small *bougie à boule* (Fig. 2). The head of the bougie should be just small enough to pass easily into the antrum; on withdrawing it, the finger at once detects when the head impinges on the upper end of the canal. The thumb-nail be-

ing then placed on the bougie opposite the margin of the gum the instrument is withdrawn and the length from the nail to the neck of the bougie carefully measured.

(c) ANTISEPTIC IRRIGATION.

This must be done by an instrument such as Heath's antral irrigator. The lotion used should be antiseptic and astringent, but not too irritating. It is often necessary to change the antiseptic from time to time.

The patient should sit before a looking-glass whilst injecting. The process should be stopped as soon as the fluid returns through the nose clear. The injection should be performed at first twice daily. When the lotion comes away clear at once the interval between the injections may be doubled. When the interval has reached a fortnight and still there is no pus, the case may be regarded as cured and the tube removed. If a cure has not been effected in two or three months resort should be had to the canine fossa opening.

(d) REMOVAL OF MORBID TISSUE FROM THE ANTRUM.

In some cases the mucous membrane of the antrum is greatly thickened, or polypoid, or there are deep septa passing across the antrum which prevent efficient drainage. In such cases alveolar drainage will not effect a cure. The antrum must be freely opened through the canine fossa and its interior examined with a small electric lamp, and its lining membrane thoroughly curetted.

It is well to remember that all cases of empyema antri are not alike. In some the lining membrane secretes pus but is not otherwise altered. These cases will be cured by drainage. In others the antral lining is so altered that it is incapable of being restored to the normal condition. For these curettement is necessary. There is yet another class of cases in which the antrum is not a producer but simply a receiver of pus which has been generated in the frontal sinus or fronto-ethmoidal cells. In these cases recovery cannot be expected until the source of the pus has been detected and efficiently treated.

THROAT AND NOSE AFFECTIONS AND THEIR RELATION TO GENERAL MEDICINE.*

BY WALTER F. CHAPPELL, M.D., M.R.C.S., ENG.

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Throat and nose affections are usually dependent on some condition of the general system, and not due to local causes alone, as so often claimed by many specialists. For brevity and clearness we will consider these affections from the following standpoints:

- 1st. Their relation to general diseases, such as contagious affections, rheumatism, syphilis, etc.
- 2nd. Their relation to chest affections.
- 3rd. Their relation to digestive system.
- 4th. Their relation to nervous system.

RELATION TO GENERAL DISEASES.

(a) Contagious affections have a primary and secondary effect on the upper air tract. The former evident by local rashes, membrane, etc. The latter by destructive processes which frequently cause permanent injury or initiate an atrophic rhinitis, enchondroma, perforation of nasal septum, recurring epistaxis, in fact, many conditions for which we are consulted date their origin to one of the contagious diseases of the upper air tract. Is sufficient care and treatment employed in the acute and convalescent stages of scarlet fever, measles, diphtheria and other similar affections? The family physician should watch children under his care, so that adenoid vegetations in the naso-pharynx, enlarged tonsils and any other unhealthy condition of the mucous membrane could have immediate attention. If this was generally done, the number of cases and deaths from diphtheria and scarlet fever would materially diminish.

(b) Rheumatism and gout are frequently manifested in the upper air tract, but more as local manifestations of a latent diathesis than as part of a general rheumatic attack. Extreme pain and stiffness of the surrounding tissues and marked redness of the mucous membranes characterize the nature of the attack. Prompt and persistent internal medication are the only means of obtaining any relief.

(c) Syphilis of the upper air passages has some features deserving special attention. Primary infection of these regions is not un-

*Author's Abstract of Paper read before New York State Medical Society, Jan. 25, 1898.

common and may be mistaken for diphtheria. In one case under my care the Klebs-Löffler bacillus was found in the throat by the State Board of Health and pronounced diphtheria, but subsequent observations proved it to be primary chancre.

Congenital syphilitic ulcerations of the nasal septum and soft palate and larynx are not infrequently mistaken for tuberculosis and malignant disease.

RELATION TO CHEST AFFECTIONS.

The structural relation and position of the respiratory organs makes it extremely probable that their affections would be interdependent. How often an acute rhinitis or laryngitis spreads downward to the trachea and bronchi, or an acute bronchitis spreads upward to the pharynx and nasal passages.

Tuberculosis of the larynx, with but few exceptions, has been preceded by a primary pulmonary invasion. Two cases of primary infection through the upper air tract have come under the writer's observation. Neoplasms of the chest always result sooner or later in some structural or functional change in the upper air tract.

RELATION TO DIGESTIVE SYSTEM.

Few more frequent causes of throat and nose derangement exist than those resulting from some disturbance of the gastro-intestinal tract. The usual local throat manifestations are: venous congestion, mostly around the base of the tongue, and glandular enlargement also chiefly on the posterior pharyngeal wall and base of tongue. These conditions in some instances cause great tenesmus in the throat, and in a few instances serious laryngeal spasms. Increased glandular tissue seems in some instances to be influenced by the uric acid diathesis. In the latter cases, suitable remedies must be administered to correct the diathesis, otherwise the glandular enlargements recur. Regulation of diet, exercise and mode of living is necessary in every case when the digestive symptom is at fault and will in most instances be all that is required.

RELATION TO NERVOUS SYSTEM.

Aphonia, œsophageal stricture and dysphagia of hysterical origin are not uncommon. Reflex coughs and headaches sometimes occur, but are not so frequent as supposed. Headaches of nasal origin result usually from improper drainage or disease of some of the numerous sinuses connected with the nasal chamber. Hay fever and intermittent rhinorrhœa are the most frequent and important nasal affections connected with a general neurosis. Remedies which influence the vaso-motor system are specially indicated and can be relied upon to give more relief than local treatment. Cinchonidia salts have

a profound influence over the vaso-motor system of the upper air tract. There are but few cases of hay fever which are not favorably influenced by cinchonidia in some form.

In concluding this paper, I wish to mention that, owing to the short time at my disposal, there are some general physical conditions caused by nasal diseases which have not been mentioned. I think, however, that enough has been said to show that we must not confine ourselves along too narrow lines in this specialty. General practitioners must not treat lightly the effect of nasal and throat affections on the general health, neither must throat specialists forget that internal medication will meet the requirements of many of their cases.

7 East Fifty-fifth Street.

Rapid Extirpation of a Large Naso-Pharyngeal Polypus, With Extra-Cranial Prolongation, Without Bony Resection.

In a patient of thirty years, suffering from naso-pharyngeal polypus, Dr. Isch-Wall, of Paris, operated by the method of Doyen. (*Revue Hebd. de Laryng., d' Otol. & Rhin., Jan. 22, 1898.*) A partial removal of the tumor had already been made with successive cauterizations, but the tumor had recurred and had now invaded the mouth, nose, maxillary sinus, and orbital and temporal fossa.

After chloroform anæsthesia, the patient was placed in the Rose position and the point of implantation found to be the basilar process. The tumor was then seized with the forceps in one hand and with the index finger of the other, the prolongations in the nostrils, orbit and sinuses freed. The temporal prolongation only remained, this being held by a small pedicle. The bleeding surface was at once tamponed and the hemorrhage arrested. In order to reach the temporal prolongation, the author incised the tissues and made a section of the zygomatic apophysis. Two months later the cure was found complete.

SCHEPPEGRELL.

LARYNGEAL VERTIGO.*

BY J. C. MULHALL, M.D., ST. LOUIS, MO.

On December 5, 1896, a gentleman, Mr. W. L. Wright, consulted me concerning a cough from which he had suffered many years, but which lately had been attended with alarming symptoms.

He was aged forty-seven, weighed 173 pounds, and was five feet four inches in height. His complexion was florid, his hair quite gray, his manner placid and temperament phlegmatic. His pulse was ninety, a trifle irregular, small and compressible. His urine acid, specific gravity 1.029, loaded with phosphates. He led a quiet, regular and sedentary life, being curator of a large estate; did not use tobacco or alcohol, took extremely little exercise, but ate largely of nitrogenous foods; meat three times daily, especially beef, beef-steak and mutton, eggs in abundance, large quantities of bread and potatoes and cooked fruits. His flesh was soft and flabby; his chest narrow, but abdomen large and pendulous. All his visible mucous membranes were equally hyperæmic, that of his larynx not more so than the gums or conjunctiva. He was plainly in a condition of what I, for convenience sake, style hypernutrition. For years his bowels moved five or six times daily, the amount, however, in toto not exceeding one full evacuation, as is his habit to-day. He also passed urine very frequently, but not in large amount. Commencing at the age of seven, after an attack of scarlet fever, he had been the subject of winter cough, which almost completely disappeared with warm weather, or, as questioning elicited, when his skin began to act more freely. This cough was paroxysmal, sometimes but two or three attacks in a day, sometimes twenty, the paroxysms ending with the ejection of a small amount of viscid white sputum, which had never become yellow, therefore not of inflammatory origin—not a bronchitis, but the result of bronchial hyperæmia of varying intensity. For the last twenty-five years he has been the subject of hay fever, and for the last nine years, during the latter weeks of the hay fever season, of asthma.

From this history it was apparent that in addition to his state of hypernutrition there was defective elimination, and that the principal irritant in the blood was uric acid.

In October and November of 1895 he noticed that on several oc-

*Read before the St. Louis Laryngological and Otological Society, Jan. 12, 1898.

casions his fits of coughing were accompanied or followed by vertigo, so that frequently he, for a few moments, clung to the nearest support. In December of that year, whilst seated in the train on his way to his home at Webster Groves, he suffered one of his usual cough paroxysms, and found himself cold and his clothing quite wet. He asked his companion in the seat for an explanation, and was told that he had fallen over on him, ceased to breathe, became very red in the face, had excited alarm about him, and had been drenched with ice water to restore consciousness. In this winter, that of 1895-96, he had three more such attacks. For the three months preceding his visit to me (December 6, 1895) he would return home from his day's work quite exhausted and somnolent, so that if, for example, supper was not quite ready, he would fall asleep sitting upright in a chair. He had also had, with hardly exception, every evening, between six and nine, sometimes at the supper table, usually afterward, an attack of cough, followed by complete unconsciousness. For a description of an attack I am indebted to his very intelligent wife. No action in particular attracts her attention, but experience has taught her and her daughter to watch him carefully. She notes first a peculiar, indescribable facies, his eyelids dilate, the eyeballs roll upward, become dull and listless. This facies lasts, sometimes, a full minute or two, long enough, frequently, to enable them to drag him, in his chair, to the window, which they open and, in addition, vigorously fan him. She thinks him semi-conscious, and by this treatment has been enabled to ward off the next phenomena, which consists of, almost invariably, three short, dry coughs, each lower in pitch than the preceding one, followed invariably by complete unconsciousness. He ceases to breathe, his face becomes bluish-red, his whole body becomes somewhat rigid, and thus he remains from five to twenty seconds, when a long inspiration takes place and the attack is over, except that on a number of occasions there has followed, for two or three minutes, mental confusion. These attacks have very seldom followed violent coughing, but she has never known him to have an attack without the preceding three gentle dry coughs. There has never been an involuntary cry, escape of urine or biting of the tongue, or convulsive movement. Several cases have been reported in which there was first a laryngeal or sub-laryngeal tickling, but my patient states that he has never experienced this or any other morbid sensation in the throat at any time. His family history is perfect, and beyond the history I have given his health has been excellent. Physical examination yielded no evidence of disease in any part of the body. At most, there was a gentle hyperæmia of

the upper respiratory organs. In accordance with my theory of the pathology of his case, namely, that there occurred uric acid explosions, producing either capillary spasm or paresis in the respiratory centers, thus in turn producing not only spasm of the glottis, but, as I wish to insist on, spasm of all of the muscles of respiration. He was placed upon anti-lithæmic treatment, the details of which it is of no import to mention here. It consisted greatly of rigid diet, cold friction to the skin, calisthenics, and the substitution for a certain amount of intellectual work, manual labor in the open air. By February 22 he had lost nineteen pounds, and yet had gained quite considerably in strength of mind and body. He had but two movements from the bowels daily, instead of six; his urine was straw-colored and transparent; his asthma had disappeared; he coughed fifty per cent less than he had in twenty years, and it had lost its dry, paroxysmal nature, the sputum being ejected without effort. He had, from December 6th to the 15th, but two of his laryngeal attacks, and since that time not one. He was discharged from treatment, but instructed to so diet and exercise as to maintain the muscular equilibrium he had secured. I did not see him again until October, 1897. He had been perfectly free from attack, and related an interesting history bearing upon the diagnosis of the uric acid diathesis. For many years his hay fever had invariably commenced on August 16, but he had always, for a few days before, had certain prodromata. Last summer he did not leave for his annual vacation until August 21, and up to that date had not even had the usual hay fever prodromata. Unfortunately, for the sake of this history, he went to his usual resort in Canada, one which is exempt from hay fever, so that whether he would have escaped his hay fever or not, cannot, of course, be stated.

I did not see the patient again until October 8, 1897, when he applied for relief from a mild attack of subacute bronchitis, which yielded very quickly to an apomorphia expectorant mixture.

I have seen him again lately. He states that he has not had a single attack of cough, followed by unconsciousness, but that he has had several mild attacks of vertigo following cough. He has been overworked, has neglected his calisthenics, but has maintained the reduction in weight. He still has remnants of his old winter cough, but has suffered no attack of the peculiar spells of short dry coughs which have preceded his attacks of unconsciousness.

Since 1876, when Charcot first drew attention to the clinical picture, of which my case is a reproduction, about fifty cases have been reported. The salient features are, however, so alike in all reports,

the group of symptoms so peculiar and characteristic, that there is formed a distinct morbid entity, and yet not entitled to any rank in nasology. Baptized by Charcot laryngeal vertigo, the title can only be accepted as one of convenience, since vertigo is but a symptom of many diseases, and the larynx in the majority of cases has been found absolutely normal. In a few cases there existed laryngeal hyperæmia, and in but one case, that of Sommerbradt, all symptoms vanished subsequent to the removal of a laryngeal polyp, but in this same patient, fifteen years before, epileptic attacks had ceased after the removal of a cicatrix from the dorsum of the hand.

The essential difference between this disease and the laryngeal crisis of locomotor ataxia is in the cardinal laryngeal symptom. In tabes the cyanosis and unconsciousness only prevail after the glottic spasm has existed quite a time, just about the same length of time as would arise from ordinary strangulation, whereas in laryngeal vertigo the unconsciousness and cyanosis appear immediately after the laryngeal symptom, be it cough or laryngeal tickling, or both, so quickly, indeed, that mere glottic spasm cannot alone explain the vertigo or unconsciousness.

The attack so often resembles *le petit mal* of epilepsy that several authors, notably Gray and Schrötter, describe it under that title. Half the number of patients have laryngeal or sub-laryngeal tickling—a sensory aura—whilst all, with hardly an exception, have two or three very gentle cough explosions immediately preceding the loss of consciousness—a motor aura—yet there are some notable differences. Out of the fifty-three cases reported, but three have been in females; there has been marked absence of heredity, and in nearly all I know of no case reported in children.

All cures have quickly followed various therapeutic measures. In a very few the tongue has been bitten, and there have been slight convulsive movements, but never true clonic spasms; never involuntary passage of urine; never the epileptic cry; never part epileptic phenomena, except in a few cases a slight and transient mental confusion, so that there exist but the two symptoms common to both, an aura, quickly followed by insensibility, a clinical picture which has appeared after douching an ear, or the nose, or adding another epileptic sign; convulsions have been seen in laryngismus or whooping cough.

Out of seven cases collected by Schadowaldt, of Berlin, six were pronounced alcoholics, and in most cases reported the patients have been plethoric. Schadowaldt also reports the only death, and is one of the very few who has been an eye-witness of the attacks. He

relates the difficulty of analyzing the symptoms, because the whole attack is so quickly over. He has seen this patient, as I have mine, in tremendous paroxysms of cough, and yet not followed by insensibility. At most there was but slight vertigo. The disease in others, however, has followed violent explosions of cough. In the lethal case of Schadewaldt there was but slight spasm, the usual gentle cough, insensibility and death. The disease had disappeared in this case for twenty months. The author calls attention to the fact that perhaps there are many more deaths than are reported. Suppose, for example, this patient, after recurrence from what had seemed cure, had, after relapse, applied to some other physician who had not recognized the character of the case, or had he been found dead, the ultimate outcome might never have been known.

What, then, is the mechanism of events in laryngeal vertigo, or as most authors now call it, *ictus laryngis*, since it is not with that stage or symptom of the trouble—vertigo—with which we are dealing, but where there is a stroke, implying insensibility?

There are a few expiratory outbursts, namely, the gentle coughs, and in this attitude, that of a closed glottis, respiration instantly ceases. Not only is there addular laryngeal spasm but there also occurs that which no author seems to have mentioned, namely, spasm of the great abdominal muscles and the diaphragm in the expiratory attitude. Whether there is simply glottic spasm, or with it associated spasm of the other respiratory muscles I have mentioned, makes a very great difference in the intrathoracic pressure. If any one of my audience will take a deep breath and then simply hold it, he will find that the face becomes turgid very slowly, that the pulse will become slower, but hardly change in volume, whereas let him take a deep breath and then throw his diaphragm and great abdominal muscles into expiratory spasm, the glottis will close, his face will at once become turgid, the pulse slower and feebler and finally disappear, and syncope may occur. These experiments were first described by Weber in 1851. On one occasion, after self-experimentation, he actually became unconscious, there were muscular twitchings in his face, and some mental confusion.

Dr. F. T. Knight, of Boston, in an article on laryngeal vertigo, published in 1886, recalling these experiments, following McBride, explains the symptoms by saying that "there is a direct disturbance of the cerebral circulation by compression of the large blood vessels and even of the heart itself." He recalls that wind-instrument performers often suffer vertigo—that rapid respiration may cause sufficient anæsthesia to admit of the painless extraction of a tooth.

Charcot makes it a condition analogous to Meniere disease and stomachic vertigo. He reminds us of the experiments of Paul Bert, where, through irritation of the pneumogastric, respiration and other motor phenomena may completely cease and death follow. He concludes that the upley cycle is contripetal, and the starting point some irritation of the superior laryngeal nerve at its distribution in the larynx. Just as in hay fever the sensory irritation is in the nose. In the one case the resultant motor result is glottic spasm and in the other sneezing. But I wish to add that just as in hay fever the efferent impulse may be conveyed to the bronchi and asthma result; so in laryngeal vertigo—the efferent impulse may produce not only glottic spasm, but also spasm of the great abdominal muscles and diaphragm.

Against Charcot's explanation may be mentioned the fact that in these very patients it is exceptional to find the attacks follow violent attacks of coughing, and also the clinical fact observed by the wife of my patient that certain phenomena preceded the laryngeal tickling, as the gentle explosions of cough, which precede the unconsciousness. She observed a certain facies, the dilatation of the lids, the upturning and glazed expression of the eyes, to precede the cough. As I have already stated, no medical man except Schadowaldt has had the opportunity of witnessing and analyzing the attack. It may be found that if those who see the patient in the attacks be instructed to look for the facial expression I have mentioned, that it may always be found to precede the laryngeal tickling.

My own view is that the first phenomena is central, most probably a vaso-motor spasm about the respiratory center, and that it is the central irritation which causes first the laryngeal tickling or short, dry coughs, and then the glottic spasm, as well as that of the great abdominal muscles. The insensibility follows instantly the glottic spasm, and cannot therefore be due to the cerebral turgescence caused by the intrathoracic pressure. In a word, therefore, I believe that all the symptoms are caused by a functional disease of the respiratory center, and in my patient, at least, from uric acid storms about the vagus centers of a man suffering nervous exhaustion.

THE ARTIFICIAL MEMBRANA TYMPANI.

BY ARTHUR H. CHEATLE, F.R.C.S., ENG.

Surgeon Royal Ear Hospital, and Senior Aural Clinical Assistant, King's College Hospital, London.

One of the most brilliant benefits of aural surgery is the improvement in hearing obtained by means of an artificial drum. Sometimes a patient has his life completely altered by it, for from being an introspective, silent and more or less morose man, he is converted into a bright and cheerful companion, and able to take his part in general conversation, which makes up such a great part in the happiness of home and social life.

At the same time no method of treatment has been so much abused. Advertisements appear in the daily papers offering to cure all deafness and noises in the ears by means of ear-drums, and as there is no class of patients as the deaf so ready to fly to anything which offers hopes of improvement, an enormous number are sold, for the price of one guinea apiece, without regard to the nature of the deafness, and of course without a skilled examination. As might be expected, the results in the great majority of instances are negative, if not positively harmful.

The cases in which improvement is obtained are those of chronic middle-ear suppuration where the discharge is slight, or has ceased, but in which either a large portion of the membrane below the short process of the malleus has been lost, or the whole of the incus, or the descending articular process, has been destroyed by caries. I shall not deal with those cases in which operative measures, such as removal of the malleus and incus, for caries of their heads, have exposed the head of the stapes.

The reasons why an artificial membrane is successful in the two class of cases will be readily appreciated if we briefly consider the functions and anatomy of the membrane and chain of ossicles.

Figure 1 represents an intact membrane; the handle of the malleus, from the short, rounded process above to the tip below, is embedded in it. Above this short process and the slight folds which pass backward and forward from it is a thin loose membrane (*membrana flaccida*) which is not attached to the malleus, and practically takes no part in receiving and transferring vibrations. The portion below

the short process and folds (*membrana tensa*) is thicker and more stretched, and, having the handle of the malleus imbedded in it, is thus able to vibrate and transfer the vibrations to the chain of ossicles and so to the labyrinth. The triangular light portion running downward and forward from the malleal extremity is due to the reflection of the light thrown in for examination. If this *membrana tensa* is lost it can be appreciated that besides the malleus having lost its vibrating medium, there is also a general loosening of the ossicular chain, and that a support of some sort will help in the transference of sound waves.

The head of the malleus lies above the long edge of the meatus in the topmost part of the middle ear (the attic), and articulates behind with the body of the incus (or anvil). This incus has a process which passes backward and is more or less fixed, while another passes downward, behind and parallel to the malleus, loosely articulating



Fig. 1. Right Ear.

at the inner part of its tip with the head of the stapes (or stirrup), which lies horizontally with its base in the oval window of the outer labyrinthine wall, the ossicular chain thus being able to transfer vibrations to the labyrinth, but the connection being cut across if the incus or its articular process is lost. Caries of the incus, especially of the articular process, is common, as it depends so much for its blood supply on the lining membrane surrounding it. The perforation in these cases is usually in the posterior superior segment, but may extend upward or downward. The artificial drum, being placed on the exposed head of the stapes, takes the place of the drum and the two larger ossicles.

Figure 2 represents the middle ear after removing the membrane. The neck, short process and handle of the malleus hang suspended in the center; behind is the articular process of the incus; the stapes lying horizontally is shut out of view by the articulating tip and the stapedius muscle, which is seen as a white sheath running backward. Of course, in both varieties, if there is labyrinthic mischief or deep

adhesions fixing the stapes, an artificial drum will not improve matters. These complications should be excluded, as far as possible.

The accompanying figures represent cases in which an artificial drum has been successful and illustrate the varieties above described.

Figure 3 shows a large heart-shaped loss in the membrana tensa.

Figure 4 shows almost total loss of membrana tensa, exposing the stapes and incus joint.

Figure 5, a case of caries of the incus, the perforation in the posterior superior segment. Head of stapes not visible.

Figure 6. Perforation in posterior segment. Articular process of incus lost. Head of stapes with stapedius muscle exposed.

Figure 7 looks obscure, but it is represented to emphasize another class of the second variety of cases. The whole drum has been lost and its place taken by a cicatrix. There is no trace of the malleus or incus, but the stapes must be in position.

If a patient has one ear normal, the bother of using an artificial drum is not advisable unless his business or pleasures demand good bilateral hearing.

An extremely useful guide as to chances of improvement being ob-



Fig. 2. Right Ear.



Fig. 3. Left Ear.

tained is often given by the patient, who says that immediately after syringing the hearing is greatly improved, but, in a short time, it is as bad as ever. This phenomenon is explained by the bracing up of the ossicular chain, produced by the syringing, and by the support given by some of the lotion which remains temporarily in the deep meatus. With regard to the variety of artificial drum which should be used, it is obvious that it should cause as little irritation as possible, that it should be of easy management to the patient, and that no septic infection should be introduced by it. In 1841 Yearsley suggested a cotton-wool pellet with a string attached, but as this was apt to get out of position, wool in the form of a wick was substituted, and this, if properly used, fulfills all that is required.

It should be made in the following way: Careful measurements of

the hearing power, both to voice and watch, having been made, the surgeon's hands are well washed and purified. A thin layer of double cyanide cotton-wool is then evenly pulled out and laid in some hot antiseptic lotion (such as one in sixty carbolic with a small quantity of glycerine added to prevent drying of the wick when in situ), and the irritating soluble cyanides, which are present in the wool, well washed out: it is then evenly rolled up and should make a fairly firm wick which should not completely fill the meatus, and should reach from the middle ear to just inside the cartilaginous meatus. This wick is then gently introduced by means of a pair of forceps down to the middle ear through a wide, short speculum, and under a good reflected light. In the first variety of cases it may act better if it is placed on the ossicles, but sometimes greater improvement occurs by placing it over the perforation. In the second variety, the head of the stapes is necessarily the only position for it.



Fig. 4. Left Ear.



Fig. 5. Right Ear.

After introduction the hearing should be again tested. If successful the patient at once notices the improvement. If no improvement occurs, removal and careful reintroduction in another position should be made and result noticed; if no improvement is present after three or four such introductions, the examination should be postponed for a month or two. If slight improvement is obtained, it is for the patient to say if it is enough to help him.

Having obtained improvement the surgeon should give full instructions to the patient in the making and using of the wick. It is best to see him make and introduce one and several lessons may be necessary. After a little practice the patient can introduce it into the best position much better than the surgeon. A straight pair of untoothed forceps should be ordered him for introduction.

The following rules should be insisted upon:

1. At first the period for which it is worn should be short and

then gradually increased. An hour a day one week, two hours for the next week, and so on, until it can be comfortably borne all day.

2. It should always be removed at night, the ear being gently syringed after removal and before introduction with a trustworthy, but not irritating, antiseptic solution, such as saturated solution of boracic acid.

3. If pain, bleeding, increase of discharge, or any complication arises, it should be left out *at once*; to be gradually worn again after such complications have well subsided.

If used in this way, not only is the hearing benefited, but, acting as a dressing and protection to the middle ear, the wick is a good



Fig. 6. Right Ear.



Fig. 7. Left Ear.

treatment for the slight suppuration which may exist. Occasionally, after using one for some time, the efficacy, as regards hearing, disappears without any apparent cause; a period of rest, followed by retrial, will usually overcome this.

All artificial drums that have a solid handle, which must lie in the meatus, are to be avoided, as the least blow on the ear will drive the drum against the delicate middle-ear structures; those sold by advertising quacks have this fault. Those, again, which lie against the middle ear without any attachment for withdrawal, are not advisable, as they may remain in the ear, the patient, from forgetfulness or carelessness, leaving them in to soak up discharge and become a putrifying mass, and they also necessitate groping about in the deep meatus with a pair of forceps every time they are removed.

A FEW CLINICAL AND ANATOMICAL POINTS RELATING TO THE EAR.

BY ARTHUR J. SHAW, M.D., BOSTON, MASS.

At the point in the posterior and upper part of the external auditory canal, where the squamous portion of the temporal bone turns in to form the posterior wall of the auditory canal, is a small tubercle, which varies in size, called the spina meatus—this is our starting point for measurements in opening the mastoid, as will be mentioned later. The posterior root of the zygoma is prolonged backward to continue into the linea temporalis; below it lies the mastoid. Near the posterior part of the mastoid is the mastoid foramen, which leads to the lateral sinus, its position being various.

We can, on looking at a mastoid, tell only in part with what kind we are dealing.

In a mastoid of considerable size there are usually many cells, still it may contain a deep sinus and be markedly sclerosed. Mastoids are divided into three classes:

1. The pneumatic, abounding in cells or cell space.
2. The diploic, smaller cell-spaces and a partly sclerosed condition.
3. The sclerosed mastoid where the process is solid bone; these last are very hard to deal with, as usually the sinus is deep and far forward; there are no arbitrary divisions. The cells lead to the antrum, and the antrum through the additus to the posterior and upper part of the middle ear.

The mastoid antrum runs outward and backward, lying immediately beneath the tegmen. In front is the auditory canal, below are the mastoid cells, behind is a portion of the sinus, and in its floor lie important structures, so care should be taken not to wound it.

The lateral sinus forms the inner and posterior wall of the most of the mastoid, and in the sclerosed or tendency thereto approaches, as mentioned, nearer the surface and more anterior; the bone lying between it and the cells is usually solid; there are very rare cases where it has been found perforate.

Then in opening a mastoid, make a curving cut, for it exposes more surface and heals more kindly and smoothly than a straight cut—push the ear forward, but do not peel the periosteum too much from the canal, as this causes delayed healing—find the spine of the meatus, go five millimeters behind and three below this point, re-

membering the direction is toward, forward and slightly upward. Open the cortex with a chisel, better slanting it, and striking lightly; the cortex is usually thin, averaging one to two millimeters; this enables one to pass in a director curved at the tip and locate where the opening leads. You can now chisel the bone easily and freely, curetting out the cells and bone according to the case. It is the first opening that is uncertain, after that the steps of the operation are easy, except in the sclerosed mastoid; it is inexcusable now to open the lateral sinus. The fear of an opened lateral sinus is, I think, rather overestimated. The blood wells up freely, when it is opened, but it is usually easily stopped by a gauze plugging, only there must be strict antisepsis and the operation must be completed; and other ordinary medical precautions followed.

In the external auditory canal, I merely mention the canal of Huschke, which is sometimes found in the tympanic plate of the adult, leading to the glenoid fossa, a canal which is usually closed at five years of age.

Bony Landmarks of the Tympanum.—From our methods of examination there is a tendency to consider the tympanum larger than it really is. Briefly looking at a membrana, we see the manubrium of the malleus extending downward and backward, the short process above with the folds running anteriorly and posteriorly, enclosing Schrapnell's membrane. The membrana is $\frac{1}{10}$ of a millimeter thick—the posterior superior part is nearest the surface, the inferior anterior farthest. Not considering its smaller curves, one hardly appreciates the amount that the membrana is drawn in at the umbo. The incus is seen running parallel to the manubrium in the posterior superior quadrant, ending about the middle of the manubrium, where it joins the stapes, which can often be seen, its axis running horizontal. Below and posteriorly we see the round window. The measurements from the most prominent part of the promontory to the membrana is a little over a millimeter, the next narrowest point being at the umbo.

The chorda tympani nerve comes into the tympanum in the posterior wall and runs in the posterior pocket, or about in a line with the posterior fold of the membrana, runs between the malleus and incus, being attached to the base or highmost part of the manubrium, continuing forward to emerge at the fissure of Glaser—when cut, the discomfort lasts only a short time.

The jugular fossa forms part of the floor of the tympanum and sometimes it is perforate into the tympanum, so in doing a paracentesis, the knife should not hit the inner wall too hard for it might perforate it; for the same reasons never curette the floor of the tympanum for granulations.

The round window looks backward and has a shelving edge, rather important in some cases.

The floor of the tympanum extends lower down than the membrana and usually has quite a number of cells extending into it slightly.

The Eustachian tube opens into the tympanum high up on the anterior wall, so that it does not drain the tympanum except in certain positions of the head.

In the epitympanic space or attic we have a small space, with the head of the malleus and the incus and their ligaments, which obstruct, partly, its drainage; again, here we may have membranes which add more to the difficulty, as, for instance, from the tendon of the tensor tympani to the anterior wall; in order to treat this ear properly it would have to be perforated.

In closing, a few words about the aqueduct of Fallopius: On the inner wall of the tympanum, where the canal lies just above the pelvis ovalis, its wall is very thin and sometimes even perforate—you can just see the canal ordinarily. So in using a probe or curette, great caution must be used here.

In a horizontal section of the temporal bone, made through the middle of the canal and cutting the promontory through the uppermost part of the round window, shows the facial canal on the lower section to be two millimeters behind the annulus and one and one-half millimeters to the inner side. This will enable one to place the depth of the facial nerve. A section made a little lower down through the lower part of the round window shows the canal to be a little more external, nearly on a line with the annulus and still two millimeters behind. The bone lying between it and the annulus is very dense.

86 Charles Street.

Sodium Tetraborate in Otorrhœa.

A warm 50 per cent solution is to be injected into the canal and permitted to cool, when the tetraborate crystallizes out. In a short time (usually after two weeks) the aural discharge disappears. Stronger solutions may be employed.—Dr. R. Kafemann (*Am. Med. Surg. Bull.*)

LEDERMAN.

REPORT OF A CASE OF RUPTURE OF THE TYMPANIC MEMBRANE FROM INDIRECT VIOLENCE.

BY DR. H. W. WOODRUFF.

Professor of Ophthalmology in the Chicago Eye, Ear, Nose and Throat College, and Assistant Surgeon at the Illinois Charitable Eye and Ear Infirmary.

On Christmas day Mr. J. C. fell, striking his right ear violently against a door-knob. He at once experienced great pain, deafness, vertigo and tinnitus. By keeping quiet the pain subsided in about one hour. On the following day he came to my office. The examination showed an extensive rupture of the inferior portion of the drum-head, as shown in the cut. The posterior half of the rupture



extended only through the outer layer, as I have endeavored to show. Through the anterior portion of the rupture, the interior wall of the tympanum was plainly visible. Along the upper margin of the tear there was a trace of blood. At the time of the examination there was no pain or dizziness, but some tinnitus, and a feeling of numbness remained. The tuning fork placed on the vertex is heard best in the injured ear. The arial conduction is considerably lessened. He cannot hear the watch, and only loud conversation in the affected ear. On the third day after the injury there was some mucous in the middle ear. The edges of the wound were very pale. The feeling of numbness has disappeared. The tinnitus is constant. No treatment was instituted other than the wiping out of the canal with a pledget of cotton, saturated with a bichloride of mercury solution, and the protection of the middle ear with a strip of gauze. No inflation was used. An examination made one week from time of injury showed the condition to be about the same. The edges of

the wound were very white, but there was no discharge. This case is interesting from the fact (1) that the tear is of large extent; (2) that the edges are widely separated and not in contact as some otologists (Toynbee) have said is the usual condition in rupture due to indirect traumatism; (3) very little hemorrhage followed the injury—possibly the membrane was somewhat sclerotic; (4) in the posterior position the cutaneous layer only was divided; (5) the tear is not in the direction of the radiating fibers of the membrane. Joliet, Ill.

Elephantiasis of the Auricle.

Dr. Haug reports the occurrence of elephantiasis of the right auricle in a girl of twenty years. (*Archiv. f. Ohrenh.*, Vol. XLIII., part 1, *Journ. Amer. Med. Sciences*, Vol. CXIV., 1897.) Ten years previous to the time Dr. Haug first saw the case, the patient had had the whooping-cough, during which hemorrhage from the left ear and extravasation of the blood beneath the integument of the auricle took place. The long diameter of the enlarged auricle, measured from the spina helicus to the lobule, was $12\frac{1}{2}$ cm., and the transverse diameter, from the outer edge of the helix to the antitragus, 7 cm.; the breadth of the lobule was $4\frac{1}{2}$ cm.

A microscopic examination of a small piece revealed that the enlargement of the tissues consisted of a lymph-angio-fibroma with hyperplasia of the cartilage of the perichondrium. SCHEPPEGRELL.

NEW INSTRUMENTS.

IMPROVED RHINOLOGICAL FURNITURE.

BY EDWIN PYNCHON, M.D., CHICAGO, ILL.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College;
Late Senior Assistant Aural Surgeon, Illinois Charitable Eye and Ear
Infirmary, Chicago.

Convenience in treating diseases of the nose, throat and ear is materially enhanced by the use of seats for both patient and operator, which are particularly adapted for the work. I wish to call attention



Figure 1. Patient's Chair.

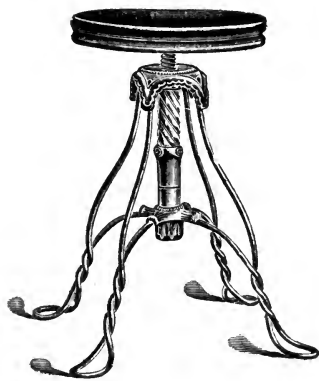


Figure 2. Operator's Chair.

to a chair and stool which were the outgrowth of the full appreciation of the preceding proposition, and represent the result of several years' thought and experiment.

Figure 1 shows the patient's seat or chair, and is modified from an Andrew's No. 75 M. stenographer's chair, combined with a so-called "Marshall Field back." The base of the chair has been changed for one giving greater range in elevation, ranging from nineteen to twenty-six inches, so it can be made as low as an ordinary house

chair and as high as may be required in treating the smallest child. The back is made absolutely vertical, so as to compel the patient to remain within easy reaching distance. The back is not adjustable, and is supported by slightly springy bent rods, which give all the rigidity required. This back is not adapted for the support of a head-rest. A head-rest is seldom required when using saws which cut on the pull, or in the use of the electric engine burrs or trephines. In case a head-rest must be used, it is much better to have it attached to some rigid and fixed object, as a door-casing or wall. In ear work, with a pivot chair like this, either ear can be examined or treated with equal facility by swinging the patient around.

The stool (Figure 2) for the operator has the same base as has the chair, hence its range of vertical adjustment is the same, though the seat is of smaller size, being only twelve inches in diameter. In the stool the qualification of high elevation is equally as valuable as in case of the chair, though, while the chair is heightened in direct ratio to the diminution in size of the patient, with the stool the reverse is true, and its greatest height is required with the tallest and longest-legged patients. With this latter genius all the proportions are too liberal for easy reach when ordinary chairs are employed. For example, the knees project so far out that the operator is held at a distance, unless he sits by the side of the patient, and this position I do not find advantageous, as I greatly prefer sitting directly in front of the patient. In addition to the knees projecting far out they are also so high up that unless the operator uses a very high seat he finds himself at great disadvantage. Lastly, the patient with the cumbersome legs is also long from the seat up, and by simply bending backward, as seems natural to do, removes the head so much the further from the operator. Hence in view of the whole combination, in case of the lengthy patient, it seems expedient that the operator should be enabled to get within easy reaching distance, even if he has to sit *over* the knees of the patient, and this is easily possible with the stool shown, which can be placed *between* the knees of the patient, regardless of sex, and at a sufficient height (which, in some cases, is two feet), so the seat of the stool is above the patient's knees. In this way the operator, by sitting, if necessary, well forward on the seat, becomes master of the situation, and can, at all times, keep the patient's head within easy reach. In the use of the stool the operator, so to speak, mounts and dismounts from behind, as there is no back to prevent his so doing. From several years' experience with this combination of chair and stool I can heartily recommend them, feeling sure that they meet all the exigencies of the work. Of course,

it is not claimed that the chair is a seat of comfort with so vertical a back, but as utility is what is most desired we can easily pass that seeming objection. One feature in the manufacture of both chair and stool, made at my particular suggestion, is that the upper three-quarters-inch of the female thread of the screw is cut away, so as to render impossible the elevation of the chair so high as to permit its falling over. To me it seems, to say the least, intensely strange that makers have for years and years been making screw-pivot chairs with this defect, and through it many injuries have been sustained. The remedy I suggested is so simple and efficient that it should need no further argument in favor of its universal adoption by all manufacturers of pivot-screw chairs.



Figure 3. Cuspidor Holder.

For the rhinologist, in addition to suitable operating chairs, a fountain cuspidor is also a great convenience. As for one reason or another few can avail themselves of this luxury, I have suggested a cheap substitute, shown in Figure 3. It is light, strong, graceful, does not tip over, and holds a cuspidor at a height which greatly enhances its convenient use by the patient. It will be easily seen that aside from its use by the rhinologist its field of usefulness is broad as a valuable piece of furniture in hospital wards and sick chambers, as, by its use, the patient confined in bed can so much easier reach the cuspidor.

These three pieces of office furniture have been neatly constructed for me by the A. H. Andrews Company, of Chicago, and the metal portions are of twisted steel, which is practically indestructible and incidentally as near the aseptic as could be desired.

Columbus Memorial Building.

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EDITORIAL.

BREVITY AND SIMPLICITY IN MEDICAL WRITING.

The intention of contributors to medical literature is presumably to impart knowledge. The purposes subserved by polite literature for the masses are principally of an entertaining nature, with the pointing of correct morals as an incidental, but the writer on scientific topics aims to set down what he either knows or believes to be true. The former finds a wide field for the play of fancy; the latter is quite strictly confined to demonstrable or supposed facts.

The writers of fiction delight in long stories, but the medical mind

finds life too short and the fields of imperative investigation too broad to tolerate useless verbiage. One of the charming features of the Bible is its simplicity of thought and language. The same is true of Cæsar's Commentaries, Virgil's *Æneid*, the poems of Horace and Homer, Xenophon's *Anabasis* and the dialogues of Socrates—keys to the classics that will be perpetuated as long as our race retains an interest in the Greek and Latin tongues. Their construction of language, like the architecture of the Grecian temples, commands the admiration of all who study it. Their methods of conveying thought are matchless gems of naturalness and perspicuity.

In our own day, scientific writers, like Huxley, who make the most abstruse and perplexing problems seem as school-boy examples, are models after whom we can well afford to pattern. The story of the late war between the States, as told by General Grant, a man of military affairs rather than of letters, is the more fascinating because of its direct and unaffected manner, like that of Cæsar, whom he emulated in the best sense only.

If direct, plain and terse language is admirable in popular authors, how much more desirable is it in teachers of subjects which require close mental application. The opposite of these qualities too often afflict several classes of medical writers. It would be possible to mention a book on ophthalmology, of cumbersome proportions, in which many of the subjects are so obscured by ambiguous verbosity that the reader feels, after floundering through a miry article, that his intelligence has been imposed upon and that he has paid for something which he did not get. Such writers befuddle the brain, and their productions are likely to be short-lived.

Ophthalmology has evolved an elaborate nomenclature and a system of symbols peculiar to itself. It has become permeated with exclusive technical terms that render the average article on diseases of the eye an enigma to the general practitioner. Contributions of this character in journals on general medicine are riddles to the majority of readers.

Is such enforced exclusiveness necessary and intended? If it is, what will be the result, if not to alienate the great mass of physicians from specialists? The ever-widening chasm between the specialist and the general practitioner is not of the latter's making. His language changes little. He does not delight in double and triple hyphenated mixtures of Greek and Latin roots with Saxon terminations. While he progresses with the growth of medical science, he does not walk with stilted gait, but remains the same plain man whom everyone can understand.

In otology and laryngology there is appearing a similar tendency to emphatically segregate this specialty from the co-ordinate branches of medicine. The effort is apparent in the adoption of high-sounding technical phraseology derived from the dead languages, and too often of a mongrel origin. This tendency is gratuitous and should be repressed.

The medical profession is already too much divided. Our multiplying specialties may yet prove to be our tower of Babel. It is already sufficiently difficult to understand one another. What with the ophthalmologist, the laryngologist, the gynecologist, etc., medical language, with its insufferable proliferation of technical terminology, will outgrow the power of man to master. We are flying apart like the tail of the comet; let us keep nearer the great body of the profession.

It is quite a common error with beginners in medical writing to assume a manner of expression entirely foreign to their natural speech. It appears as if they felt the necessity of assuming an inflated style of language such as they have somewhere seen and admired. They must, as it were, speak in a trance, guided by the spirit of learning, in such lofty sentences and rhythmical cadences as to astonish their every-day friends. Now, the average mortal loves unadulterated nature, and we readily incline toward naturalness, or realism, in literature. When a man says clearly just what he means, in a way that you cannot help but understand, you mentally say: "That's good: I like that," and you go on reading his article to the end, enticed sentence after sentence by such a plain presentation of his subject that it appeals to your appreciation of the beauty of simplicity, and you follow him to the end, in spite of the fact that you merely glanced at the article, intending not to read it. This man gets you by a sympathetic chord and he holds you. Whenever you see an article labeled with his name you do not leave it until you know its contents. It is like the child and the sugar bowl.

Short articles invite attention. They are the ones that are the most likely to have many readers, other things being equal—we will not say *ceteris paribus*—for English is good enough, and stands a far better chance of being understood by the majority. And is it not the majority for whom we write? Men of finished scholarship will surely understand; the mediocre will not trouble themselves with that which costs a mental effort. We recognize the fact, however, that all articles cannot be brief and yet be complete and finished products.

The habit of sandwiching one's articles with words, phrases and sentences from foreign tongues is always a source of vexation to a

large part of one's readers. There are two reasons for resorting to these foreign injections. In one case it is fair to presume that the writer believes that his readers are conversant with the foreign tongue that he has studied. If this be true, why not write the whole article in that language which he apparently considers will the more worthily express his thoughts? In the other instance the writer drops into foreign expressions, by the grace of his dictionary, to confound his readers with his superior learning, forgetting that the architecture of his own language is a very mirror in which is reflected the picture of himself consulting the "quotations, words, phrases, etc.," of his unabridged Webster.

The average reader who pays as much as his more cultured brother for the privilege of reading, cannot be supposed to relish interpolations of words and sentences in Greek, Latin, French, German or Russian. This style of affectation exhibits the profound linguistic accomplishments of the writer, or demonstrates his possession of a lexicon: but the reader is entitled to his opinion of both the man and his methods. Of true learning naught but words of high appreciation can be said; but it should be wedded to simplicity, like Gladstone to his ax. We love the naturalness, simplicity, purity of purpose, the ingeniousness of child-life, and we admire the corresponding qualities in the man.

BISHOP.

OFFICE DISINFECTION.

Much has been written concerning the precautionary measures to be employed by sanitary boards and health officers in subjecting all public places to frequent and thorough disinfection. Many of the energies of our medical profession have been well spent in this direction, and the greater regard now paid for cleanliness in our railroad stations, street cars, theaters, jails, and other public places much frequented, is the result.

Perhaps it may be well to add a suggestion which might be of interest to the large class of specialists whose principal work is confined to office practice.

The reception room of a physician is quite a cosmopolitan place, particularly in the metropolis. Here extremes often meet; aristocracy and poverty; cleanliness and filth; the delicate odor of violets and the strong, penetrating smell of garlic.

Seated side by side in the office of the otologist and laryngologist may be found the ozænic nose, the putrid, suppurative otitis media, the diphtheritic, the consumptive with laryngeal complications and

incessant cough and expectoration, the patient with tonsilitis and his young neighbor, whose whooping cough determines the diagnosis even before his entrance to the consulting-room.

It might be interesting to follow up this line of thought into its possible consequences. Suffice it to say, however, that many of our ablest colleagues look upon the contamination and infection possible in their reception and consulting rooms with utter indifference.

Only last week I reduced a hypertrophied turbinate with the galvano-cautery in an otherwise thoroughly healthy girl; during the same day I had previously treated three or four cases of tonsilitis and one case of diphtheria. When my young patient of the galvano-cautery presented herself for further treatment twenty-four hours later, she had developed a typical, bilateral tonsilitis, the first involvement of that character which she had ever had. Is it not reasonable to suppose that the operative interference in the nose diminished the natural resistance of the mucous membrane of the naso-pharynx and pharynx, and that the exposure to the contagious influence of tonsilitis and diphtheria found a fertile field?

With the establishment of antiseptics, the physician has been taught to appreciate the value of careful disinfection and sterilization of his instruments, appliances and dressings. Of what value is the thoroughly sterilized tongue depressor or nasal speculum on a susceptible mucous membrane when the air of the consulting room is laden with aerobic micro-organisms galore?

Perhaps the fumigation of our offices seems an unnecessary precautionary measure, but the actual experiment of bacteriological examination of the waiting and consulting rooms has been undertaken with convincing results. Of this, more anon.

Thus far the methods of fumigation have been accompanied by so many unpleasant features and details that frequent repetitions would be inconvenient. With the introduction of Formaldehyde, however, a clean and efficient fumigation has been made possible.

The small Formaline lamp, recently introduced by Shering and Glatz, with the accompanying formalin pastilles is the method of deodorizing and disinfecting which I now employ every two or three days in my office. Formalin is one of the most energetic disinfectants known and a small quantity also suffices to completely destroy the foul odors so prevalent in the office.

In conclusion, I would emphasize that disinfection of the atmosphere is of almost equal importance with sterilization of our instruments.

OUR PROGRAMME.

The launching of our European edition has been received in the most kindly manner by the leading medical journals of England, Scotland and Ireland. We refrain from quoting their encouraging remarks, but in one instance the policy which we had determined on is so pithily put and so aptly illustrated by a quotation from Mr. Jonathan Hutchinson that we could hardly do better than take it as a summary of our programme. The following is from the *British Medical Journal*:

THE LARYNGOSCOPE, a monthly journal devoted to diseases of the nose, throat and ear, which has earned for itself a high reputation among special journals in America, will henceforth appear in a European edition, published by Messrs. John Wright & Co., of Bristol. Dr. St. Clair Thomson will have charge of the European edition. It is intended to give the journal a thoroughly comprehensive and cosmopolitan character. In the selection of the matter the needs of the general practitioner (in whose practice the affections with which THE LARYNGOSCOPE concerns itself occupy a considerable place) will be kept in view as well as those of the specialist. To none of the special departments of the healing art more than that to which the periodical in question takes as its province, are the following words of Mr. Jonathan Hutchinson applicable:

"In the early stage of any department of knowledge, it is almost a matter of necessity that it should be in the hands of a few. But it is the highest privilege of those who thus devote themselves to the reclaiming of new spots of territory, to be able after awhile to hand them over to the commonwealth, to prove that they are now cultivated and well worthy of annexation."

Analytical summaries are of the greatest importance to the special worker who needs to keep in touch with everything published in this department of practice. To him they are invaluable for reference, but as frequently no selection is made, these *abrégés* are apt to prove rather barren reading to the general physician.

A large part of our space is devoted to original communications on practical subjects, leading articles and commentaries. Full epitomes are given of leading articles, and our readers may, therefore, rely on finding complete details and descriptions of everything which is of interest, or which promises to be of value.

Now that the technique of Laryngology and Otology is more generally taught, much greater interest is taken in diseases of the nose, throat and ear by the general physician than was formerly the case. And, as the *British Medical Journal* points out, there are few special departments to which the words of Mr. Jonathan Hutchinson are as applicable as they are to the one with which we are concerned. Our "new spot of territory" has been well tilled, and certainly much of it is ready to hand over to the commonwealth.

THOMSON.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

A stated Meeting, held on January 26, 1898, at 8:15 o'clock.

Jonathan Wright, M.D., Chairman;

Thos. J. Harris, M.D., Secretary.

Dr. Berens presented to the section a new "cut-off" for air condenser, made by Mr. G. H. Pauli, of the Manhattan Eye, Ear and Throat Hospital, of this city. It cuts itself off by means of air pressure, and is a very convenient instrument. There is no packing.

Dr. McKernon showed the section a new modification of staphylorrhaphy needle, designed for closing the rents in the hard palate. With the old needles he had found difficulty in getting stitches in back of the front teeth. In the last three cases he had used the needles; they had proved very efficacious. They consist of two needles, a right and left.

The Chairman presented J. O. Roe's instrument for operating upon deflected septum.

The Chairman said that, in regard to the staphylorrhaphy needles, he had a set which he purchased many years ago, with which he had expected to sew up holes in the hard and soft palate. Shortly after this, he was told to use chromic acid in these cases, and since then he has never seen a case which did not close after prolonged painting the edges of the perforation. To him it was wonderful how large a perforation, even of the palate, will close under this treatment. He did not refer to cleft palate cases.

Dr. Freudenthal presented a case of osteoma of the ossa nasalia. The patient was a man, thirty years of age, who came to the doctor with some impediment in breathing. He could not breathe freely through the right side and but very little through the left side. He often had headaches, especially on the right side. He does not know how it commenced, but he says that eleven years ago something seemed to grow outside the nose. In looking at the man a hard, bony ridge was seen which extended from the inner canthus of the eye down to the superior maxillary bone. At this point it seems

to turn around and go inside the nose. This has grown within the last year. On the other side is a similar hard, bony mass growing, but it is not so large.

The question now to consider was, what was this tumor which has grown during the past eleven years? The speaker saw the patient first one year ago and thought it was an osteoma, and he still believed so. He demonstrated the patient at Dr. Jacobi's house. It was thought it might be congenital syphilis, but there were no other symptoms of this disease present. Some thought it might be a rhinoscleroma, but he did not think that likely, especially as no other symptoms of this trouble had developed.

In looking up the literature in regard to osteoma in nasal cavities, it is noted that the majority of cases originate from the ethmoidal cells.

In this case the growth was symmetrical on both sides. In the interior of the nose was noticed an irregular mass.

The speaker would like to know if any gentleman present had met with a similar case in their experiences.

Dr. Quinlan said that a year and a half ago he presented before this section of the academy a case similar to the one before us, only the lines were more strongly marked, especially over the malar prominences. The patient suffered very much from obstruction (nasal) and continued pressure at the root of the nose. The recumbent position greatly accelerated the pulse and breathing—he thought the case had many features in common with the patient before us. He regarded it as a form of osteosarcoma—however, exceptions were taken to his diagnosis—some of the members thought the growth was an enchondroma.

Dr. Quinlan watched his case for many months, but there was no material change in the aspect of the patient, except there was somewhat more atresia than was noticed at first seeing the patient. He concluded from the general appearance of his case, and the peculiar character of the symptoms, that the condition was due to syphilis.

Dr. Kammerer said he had come here to see Dr. F.'s cases and not to take part in the discussion. He had some doubts as to the diagnosis in this case. Osteoma that developed from the ethmoid cells and encroaches upon the cavity of the nose and causes destruction of bone there could be more readily seen from the nasal cavity itself than in this case. As Dr. Freudenthal had said, there was a symmetrical tumor on both sides of the nose which would lead us to believe that the development had taken place into the nasal cavity.

The speaker referred to a case of a young girl, aged seventeen,

who had a large tumor, filling entirely the right nasal cavity, and which could be felt posteriorly behind the palate and could be seen anteriorly; this was removed by an incision along the middle of the nose, which incision was supplemented by another incision that permitted the removal of the edge of the superior maxilla.

The speaker thought the condition might be due to some congenital condition in this case. Palpation of the nasal bones also, he thought, made it improbable that their shape was due to a tumor developing beneath them and separating them.

Dr. Coakley said that three or four years ago he had a case similar to this occurring in a young girl, with blocking up of the nose. Also, with similar osteomata, situated on the forehead and on the inferior maxilla. It was regarded as specific, and it did improve under anti-syphilitic treatment. The obstruction was so great that it necessitated an operation, which was done by lifting the face and chiseling away, and so making a passage by cutting through the exostosis.

Dr. Knight reported a similar case, in which the external features were a widening of the bridge of the nose and a separation of the eyeballs. In the nose were found large middle turbinates wedged against the septum, and a symmetrical blocking up of the inferior meatus by bands of adhesion. He thought that the case might be syphilitic, but there was no response to anti-syphilitic treatment. There was no progress as regards the facial disfigurement and he simply relieved the adhesions by excision with the cautery knife.

The Chairman asked if iodide of potassium had been given. Answered, yes; in full doses without result.

Dr. Berens said the mass was situated on the nasal bone. He would like to see inside; that, of course, the mass included the one inside.

Dr. Freudenthal said anti-syphilitic treatment had been administered in this case frequently—three or four times without the least result. No improvement had taken place since coming under observation. The only thing to do was to open the nose by a cut along the center and we then might find an osteoma, in which event the patient might be cured entirely. In Vienna the patient had consulted several men who all agreed that he should go to a hospital and have an operation performed. The mass is greater inside and one can easily feel it. It has grown larger during the past year.

Dr. Berens presented a case that he had operated upon for deflected septum; he did the modified Adam's operation with his cork splint. The patient was an instructor in the art of self-defense and six days after the operation he was struck a hard blow on the nose,

but the splint remained in place, firmly fixed. He thought this was a severe test for the operation.

Dr. Lederman told of a case of supernumerary tonsil. This occurred in a child ten years of age who gave a history of being a sufferer from dyspnœa. The tonsils were very large and there was but little space between the tonsils for the child to breathe. With the consent of the parents the tonsils were removed. They were of large size and required the large-sized tonsillotome. Afterward, he saw the right faucial space fill with another tonsil of the same size. Examination will be made by Dr. Douglass. It was distinctly a third tonsil, situated behind the one that was excised.

The Chairman said he had had the opportunity of examining supernumerary tonsils microscopically. They were apparently the result of fibrous contraction of the portion of the tonsil into a pedicle, thus becoming separated from the tonsil structure itself. All that he had seen or heard of, had their attachment to the tonsils or their immediate neighborhood.

Abscess of the Nasal Septum.

Dr. J. S. Waterman read a paper with this title. After he had worked for three years in nose and throat clinics in New York and Brooklyn without meeting with a single case of abscess of the septum, he concluded that this must be a rare condition. He found very little in medical literature on this subject. Bosworth makes no mention of abscess of the nasal septum in his book, and Lenox Brown devotes but eight lines to the subject. Gibbs, of Philadelphia, found two cases in 2,000 cases of nose and throat trouble. Gougenheim reports six cases, Uroblewski and Kicer thirteen, which he calls hæmatoma, although they contain pus. Dr. Rault is said to have reported from sixty to eighty cases in one year.

In regard to the etiology all seem to agree that the most common cause is traumatism, such as a blow or a fall. Cases are reported by various observers following small pox, scarlet fever, typhoid fever, erysipelas, anthrax and exposure to cold. Cases have also been reported resulting from a diseased tooth, from infection of the cutaneous septum and from operation for the removal of an ecchondrosis of the septum. This does not include the so-called chronic cases which may be due to syphilis or tuberculosis.

Gougenheim finds the usual nasal pyogenic organisms present in the pus, but the author said that no examinations of the pus were made in his cases.

These nasal abscesses occur more often in males than in females,

and in children than in adults. In forty-four cases, twenty-four were in children, twenty in adults. In twenty-six only was sex mentioned, twenty-three were males and three females.

The usual site of the lesion is over the cartilaginous septum. It is usually bilateral, but may be unilateral.

The symptoms and physical signs are usually pain, redness and swelling of the nose, sometimes slight rigors and a rise of temperature. There is an occlusion of both nostrils, if the abscess is bilateral. The patient breathes through the mouth, snores in his sleep and suffers from dryness of the mouth and throat. Headache may be present. The voice is muffled, lacks resonance and is nasal in character. Cases are described where there is considerable swelling of the cheeks and eyelids, with excessive lacrymation. In nearly all cases there is a broadening of the nose with a bellying out of the alæ. There is very little if any discharge anteriorly.

Examination shows the nostrils filled with a tense tumor, usually light red in color, but it may be a dark bluish-red, with a somewhat glistening surface suggesting a polyp, but without the semi-transparent appearance of that growth. A probe passed around the tumor shows that it rises from the septum. Hertzfeld and others report cases where the tumor was so large that there was a hernia of the mucous membrane.

The diagnosis would seem very simple and easy, as the tumor is quite characteristic, and when due to traumatism the history is an aid. In cases where there is any doubt, the use of the hypodermic needle will soon confirm the diagnosis. In many cases there is a perforation of the cartilage with a greater or less amount of necrosis.

Dr. Waterman gave a very interesting report of the seven cases of abscess of the nasal septum that had come under his observation.

Dr. Phillips said there was one point made in the paper which verified the opinion formed years ago, that nearly all cases of abscess of the septum were the result of traumatism. He never remembered a case of this kind that was not due to this cause. It may come on for an indefinite time before anything is done for its relief. He had at times wondered why a blow on the nose resulted in abscess; the doctor's explanation was that the blow caused the hemorrhage between the mucous membrane and deeper layers, and later resulted in pus formation. The last case he had treated was in private practice. A woman had a little misunderstanding with her husband and he administered to her a blow upon the nose: the speaker was very much surprised at the rapid formation of the pus. There formed an enormous abscess of the nasal septum. It was not more than four

days afterward that an incision was made and pus was found. There followed perfect recovery and there was no perforation nor any deformity of the septum.

The speaker said he had not seen many cases of deformity or perforation of the cartilage.

Dr. Lederman said that the case referred to by the reader of the paper was a case of ecchondromata of the septum. She was a young lady, and a simple operation was performed. She was directed to use carbolic solution, but she developed an abscess four or five days after the operation. It was unilateral, and no deformity followed.

Another case was that of a young man struck on the nose; it was a unilateral abscess that formed and there followed no deformity.

Another case seen one year ago; this case also got well after an incision and antiseptic treatment without deformity or perforation of the septum.

Dr. McKernon said he saw a case last year; a child, four years of age, who had an abscess of the septum on the left side, resulting from scarlet fever. Three weeks after the scarlet fever developed a marked pustular eruption was noticed over the body, and situated upon the cartilaginous septum was an abscess completely occluding the opening.

It was opened with a knife and got well quickly without deformity. It was unilateral.

Dr. Knight reported a case of abscess of the septum following typhoid fever. There was marked depression of the nose and a plastic operation was required. It has been said that deformity from abscess is rare; at the same time, his experience had taught him the importance of early recognition of the nature of the condition, and prompt evacuation of the pus. No doubt the majority of cases are of traumatic origin.

Dr. Mayer had seen a case of post-operative abscess of the septum. It was in a case of dislocation of the columnar cartilage where he had dissected up the mucous membrane and excised a piece of the cartilage. The abscess developed ten days later, and it appeared at first that no benefit had accrued from the operation. Upon incision of the abscess, however, the parts became normal and the patient has been well since.

Dr. Simpson thought that no permanent perforation of the septum need occur; that it was possible to have abscess without perforation. This could be proven in a number of ways. Although perforation of the septum may have existed, there is no doubt that perforation of the septum could be prevented.

Dr. Berens reported a case in the hospital with occlusion of both sides almost complete; pus came from each side, and there was no perforation. One side, when syringed, showed the return of the fluid on that same side, but none appeared on the other.

The speaker had seen a case of bilateral formation, which had resulted in complete destruction of the cartilaginous septum. The patient had had syphilis. There was some traumatism connected with it and the trouble had existed about six weeks.

Dr. Waterman closed the discussion. In regard to perforation of the cartilage, he knew of a case where there was a permanent perforation. Another case he knew of, where there was abscess formation, which had drained completely through one incision. There was slight deformity.

The Restoration of a Deflected Septum.

Dr. Beaman Douglass read a paper with this title. He believed that deflections were caused generally by traumatism in early life, blows and falls upon the nose, which were subsequently followed by nutritive changes, and increased bulging of the cartilage as age advances. It is rare for patients to refer their septa obstructions to a blow.

After referring to the symptoms the speaker said it was necessary, before proceeding to a description of the operation, to consider briefly the mechanical problems which may be presented by a crooked septum. A convenient clinical division of five classes may be made on the operation table, as follows:

1. Deflected cartilaginous septum whose deformity is (a) bowing; (b) ridged; (c) sigmoid, or (d) complicated with enlargement (turbinal) of free side, exostosis or ecchondrosis, or dislocation from superior maxillary ridge.
2. Deflected cartilage and osseous septum.
3. Deflected cartilage with external deformity.
4. Deflected cartilage with high osseous plate.
5. Deflected cartilage with perforations from traumatism, ulceration or abscess.

Before operation one should remove septal thickenings in the form of exostosis and ecchondrosis; also, from the unobstructed side, any pathological condition of the turbinated tissues which would form an obstruction to the free side after the septum had been replaced.

The examination by means of the finger will determine the convexities and concavities in the septum and will show the lines where the septum has been previously bent or where fracture has taken place; the finger also ascertains whether the triangular cartilage joins

the superior maxillary ridge, or whether the cartilage has been deflected or fractured, or displaced from this ridge.

In operating, a spear knife is introduced and carried past the deflection. An incision is made about three-fourths of an inch long, *following the line of deflection*. Next a blunt-pointed bistoury is introduced into this incision. A cut is usually made as far forward as the epithelium and vestibule of the nose, *following along the ridge of convexity*. Next ascertain whether a deflection from the superior maxillary exists; if so, and if it consists of a displacement of both the bony ridge and cartilage, an attempt should be made to break the bone free from its attachment by means of forceps. But if cartilage is found to have slipped from its articulation and obstructs near the floor, it is a deflection of the cartilage and should be treated as in the preceding paragraphs.

Next we should break up any elastic bands that exist in the submucosa, by forcibly rocking and twisting the septum with forceps. Then we should bend the septum away from the side that has been obstructed. The splints are next introduced; they are made of vulcanized rubber with a straight power border and a perfectly straight septal side. The inner end of the splint is smaller than the outer end which is made to catch the upper part of the alae nasi; the side of the splint which is next to the septum has a flat surface; the side next to the inferior turbinated body is concave. A large splint is introduced into the previously obstructed side, producing just enough pressure to force the septum a line past the perpendicular.

The patient should be kept in bed twenty-four hours and the splints should not be removed for forty-eight hours unless certain symptoms make it necessary. The usual antiseptic precautions should be carried out.

At the first removal of the splint, if the septum bulges it can be replaced by means of a nasal periosteal elevator. The splint on the formerly obstructed side should be worn four weeks.

Dr. Asch opened the discussion. He first took up the etiology of deflection of the septum. In his own experience, he thought, traumatism was the least common of all cases of deflected septum. He said that he would like to go on record in stating that cases of deflected septum were in the majority of cases either congenital or due to unequal development of the laminae of the afterbirth, and not due to traumatism. The description of the forms of deflected septum that the reader of the paper gave was correct and were those met with in his experience.

In cases of extreme deflection, he thought it would be impossible

to insert the finger into the occluded side. On the convex side it is difficult sometimes even to get a spatula in between the septum and the turbinated bone. The speaker referred to an instrument, devised by Seiler, which could be introduced into the nose, in the handle of which was a scale, which could tell us the amount of thickening.

In regard to the operation, he thought it ought to be successful provided we got a proper incision of the septum. It is impossible to correct a deflected septum unless you destroy its elasticity. This cannot be done with a single cut; must have more than one cut and the ligaments made in this way should be forced into the unobstructed nostril so as to render them flaccid.

He said it was difficult to destroy the resiliency of the septum unless this be done, or as soon as healing takes place the deformity will return.

In regard to the dislocation of the lower border of the septum, this occurred quite frequently, breaking up the septum, loosens the lower border of the cartilage so it can be put in place and held there by the splints introduced afterward. He had not tried Dr. Douglass' splint, but he did not see the necessity of having it concave on one side an oval splint will hold just as well.

The speaker thought it was generally dangerous, after breaking up the cartilaginous septum, to undertake to break up the long septum. It might not be possible to limit the amount of damage.

Dr. Berens wished to thank Dr. Douglass for the interesting paper he had given the section that evening. He wished to emphasize one point, which was dislocating the septum from the septal ridge from the superior maxilla. He referred to the time that Dr. Nichols appeared before the section, six years ago, and called attention to this same thing. The speaker read a paper five years ago and reiterated the same thing. The speaker showed the section a skull on which was marked a deep sulcus in the perpendicular plate of the ethmoid in which the septum sets. Unless we broke through we could not correct the septal deformity. The ridge was quite marked and the septum fits in same as does the glass in a watch.

It was the doctor's opinion that in the vast majority of cases the deformity of the septum was caused by traumatism. It might be caused during birth, while the baby is coming into the world.

In regard to cutting the septum, he said he could conceive of cases where this is necessary, but that he had done a great many operations and had never yet seen a case where this was necessary.

The speaker had never had one failure since 1881; he used Adams' forceps, breaking the cartilaginous septum and freeing it from its at-

tachments; he said it was absolutely necessary to break the cartilaginous septum from the bony septum; this was easily done with Adam's forceps. He had never seen any ill results from fracturing the bony septum. He did not see the advantage of using a knife when he had such a good instrument, as devised by Adams.

In regard to inserting the finger, this at times cannot be done. As a rule, however, the finger will go through, owing to the resiliency of the cartilage.

In regard to the splint, the speaker used a cork one, that he showed in 1891, which had a concavity for the inferior turbinated. The only fault he found with the splint, as devised by Asch and Douglass, they are too narrow perpendicularly.

The splint the speaker devised was so made that the tip of the nose was held in suspension and so it takes off the tension from the ala. It is aseptic, made of cork and covered with flexile collodion.

Dr. Coffin said he was much interested in the paper and its discussion. For a long time watching operations upon the septum and the result, he had come to believe that a deviated septum should be operated upon with the saw, believing that the fenestrum frequently produced in that way less objectionable than the much distorted septum often produced by operations. He had become quite converted to Dr. Douglass' operation since seeing the results of his work in many cases, and for some time now he had operated upon deformed septums doing both Dr. Douglass' and Dr. Asch's operations. In principle he could not see a great difference in the two operations; both incise the septum and both aim to break up the resiliency of the cartilage.

He thought to place the finger in the nose on the obstructed side would often be impossible, and he did not see how it was possible to get a knife into a small hole posterior to a marked deflection from the convex side. It might be done from the concave side.

As to Dr. Asch's operation, he found the clumsiness of the instruments the great objection. It was difficult for him to place the instruments in position in the nose, and he thought it almost impossible to do so without doing considerable injury to the inferior turbinated on the obstructed side.

As to the splint, he felt with Dr. Berens that they were too narrow at the posterior end; he found the curved splint especially objectionable. It was more liable to rotate upward and allow the lower flaps of cartilage to fall out of position, causing not only a perforation but a very unsightly septum. He had never used one, but believed Dr. Berens' to be one of the best splints in use. It can be shaped to suit the needs and ends of each case.

In regard to number of incisions, Dr. Douglass makes one or more; Dr. Asch makes two, and Dr. Berens does without any and the patients seem to do well in either case.

Dr. Douglass emphasizes one point—that the septum should be left as nearly in a perpendicular plane as possible. This he regards a very important point. The density of air in the Eustachian tube must depend upon the volume, velocity and direction of air flowing over its open end. All of which is influenced by deformities of the septum.

Dr. Tansley said that he had had considerable experience with deflected septæ.

He had listened to the reading of the paper with great pleasure and complimented the writer of it. The first case of deflected septum he had recognized was in 1876, before he had the pleasure of being an M. D. and while studying ear diseases. The first operation which appears upon his books was in 1877, at which time he had charge of a clinic at the Manhattan Eye and Ear Hospital. He thought he had tried every individual operation introduced, as well as the one devised by Dr. Asch.

Nearly all cases came to him because of deafness and were usually of the worst types.

The opinion he had come to was that no cutting or breaking of the septum is necessary except in the last stages of the operation. He makes it a point to injure the septum as little as possible. This conclusion had been reached because of the trouble he had had in correcting the deformities of the auricle, and the difficulties he had had in having the cartilage of the ear unite.

Having failed in a number of cases, not getting straight septæ or relief of the deafness, a number of years ago he devised the operation which he now does, which is as follows: Upon the concave side of the septum he makes a horizontal cut along the apex of the concavity. Sometimes two inches in length, this cut goes through the mucous membrane and perichondrium. He always does it under cocaine and never under ether. Having made the cut, he carefully dissects up the mucous membrane, from the septum upward, say $\frac{1}{2}$ or $\frac{3}{4}$ of an inch, and downward to the floor of the nasal cavity, thus renewing the concave side of the septum.

He then takes a smooth instrument, and by manipulating along the convex side of the septum he gets it limber and presses the upper portion of the *convex* side downward and to the concavity, and the lower portion of the *convex* side upward and to the concavity, and retains them there by two rolls of cotton upon an aluminum probe.

He thus converts the convexity into a sharp angular spur, and the previously concave side forms the center of this spur, and its renewed portion unites together. He repeatedly moistens these cotton splints with a solution of biniodide of mercury, alcohol and water, and leaves them in position for a week. The patient does not go to bed for two days, but sits in an easy chair. At the end of a week the angular spur is cut off and there follows perfect healing, and his results have so far been perfectly satisfactory. He had never had a failure and no perforation of the septum.

The loss of blood during one of these operations is usually very small.

Dr. O. B. Douglass said the subject under consideration interested him. He had done the various operations for deflected septum and with varying success. He commended the paper as offering some excellent suggestions, but he questioned the propriety of operating in all cases of deviated septum. When the nostril is absolutely occluded an operation is necessary and should be done to relieve it. He considered the operation as somewhat formidable.

In contrast with these modern methods of operating he recalled a case operated upon by him, a dozen or more years ago, in which he pierced the septum with a sharp-pointed, curved bistoury, at an acute angle with its surface, the point of the bistoury being prevented from wounding tissues in the occluded nostril by inserting a pine stick into which the point was pushed sufficiently to hold and steady the bistoury as the two were withdrawn, so far as it was necessary to cut, when they were disengaged and removed. We may sometimes do good work with improvised instruments if an exigency demands. The surgeon must be more than an instrument holder.

In reference to the causes of deflected septa he thought traumatism a more frequent cause than all others combined. It might be by instruments or pressure when the child is born, and it, doubtless, is in certain cases.

The operation most often done by him, to correct deflected septa, was that which he described some years ago, and consisted in removing an ovoid piece, at the point of greatest flexion, by a properly constructed punch, then bringing the cut edges together by means of a silver wire suture. The edges unite readily, but the parts must be held in a proper position by splints in the nose, and for this purpose he thought Dr. Berens' cork splint as good as any. He formerly used silver tubes.

Dr. Emil Mayer said that he was pleased to have heard Dr. Douglass' paper and that he practically performs the Asch operation with

knives instead of scissors. In those cases where he performs a crucial incision it is entirely identical.

There are many cases of deviation that require no operation, and a statistical study that the speaker made showed that in the Manhattan Eye and Ear Infirmary, for instance, the proportion of deviations in all nose cases was one in ten, and of these about one in nine were operated upon.

In a recent paper the speaker made a report of 200 successful cases operated upon by the method of Asch, and it was his opinion that this method was the best yet devised for the correction of the deformity.

In regard to the vulcanite tubes, objection was made that the perforations in the tube were insufficient for drainage. This is quite true, for there was nothing to drain. The sole object of these perforations was to insure its retention without slipping, and in the event of the end of the tube being rather high, some air could enter the nasal cavity through them. There was no difficulty in cleansing these tubes. He had no experience with the cork splints, but he objected to them because cork cannot be made thoroughly aseptic, and, secondly, because when covered with iodoform, as suggested by Dr. Berens, they must be a source of intense annoyance to the patient and his surroundings. He would prefer to have a deviation forever on his own person rather than endure the constant stench of iodoform in his nose for five weeks.

From remarks that had been made, it would seem that descriptions of the Asch operation were rather confusing, and so, with the permission of the section, he would present a brief epitomized description of the Asch operation:

1. With the cutting blade in the cavity, parallel to the floor of the nose over greatest convexity, cut through.
 2. Withdraw scissors.
 3. With the cutting blade in the cavity, pointing to frontal bone and as near the center of the first incision as possible, cut through.
 4. Withdraw scissors.
 5. Push segments thus incised into the cavity, effectually breaking them at their bases.
 6. With compression forceps segments are made to override by firm pressure, but no violence.
 7. Introduce tubes.
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WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

The third annual meeting of the Western Ophthalmological, Otolological, Laryngological and Rhinological Association will take place April 7th and 8th, 1898, in Chicago. Arrangements are being completed for a joint session and separate section meetings. The provisional program includes the following papers:

OPHTHALMOLOGICAL SECTION.

- "Moot Questions in Refractive Work"—H. Gradle, Chicago.
- "Recent Researches into the Histo-Pathology of Trachoma"—A. Alt, St. Louis.
- "Miscellaneous Notes from Fifteen Years' Experience in Eye Diseases"—Barton Pitts, St. Joseph, Mo.
- "Four Cases of Parinaud's Conjunctiva"—H. Gifford, Omaha, Neb.
- "On the Use of Suprarenal Capsule Extract in Minor Eye Surgery"—J. A. Mullen, Houston, Tex.
- "The Antiseptic Preparation of the Conjunctiva for Cutting Operations of the Eye-Ball"—B. E. Fryer, Kansas City.
- "Dacrocystitis: Its Significance and Treatment"—A. E. Bulson, Jr., Fort Wayne, Ind.
- "Colored Ophthalmoscopic Pictures"—C. H. Beard, Chicago.
- "The Science of Ophthalmology"—Dudley S. Reynolds, Louisville.
- "Use of DeZang's Refractometer"—T. A. Woodruff, Chicago.
- "Paper on Refractometer"—J. E. Jennings, St. Louis.
- "Report of a Case of Tumor of the Cerebellum"—E. W. Heltman, Toledo, O.

Papers have also been promised by Dr. C. Barck, St. Louis; Dr. H. V. Würdemann, Milwaukee; Dr. Frank Allport, Chicago; Dr. A. C. Carr, Carlinville, Ill.

OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL SECTION.

- "A Review of the Pathological Conditions Affecting the Lingual Tonsil"—E. C. Ellett, Memphis, Tenn.
- "The Non-Operative Treatment of Catarrhal Diseases of the Upper Respiratory Tract"—W. Scheppegegrell, New Orleans.
- "Further Report on Removal of Ossicles"—Norval H. Pierce, Chicago.
- "Fallacies in the Present Physiology of the Ear"—M. A. Goldstein, St. Louis.
- "Mastoiditis"—E. O. Sisson, Keokuk, Ia.
- "Mastoiditis of Dental Origin, Occurring in a Diabetic"—Frank M. Rumbold, St. Louis.
- "Treatment of Chronic Suppuration of the Middle Ear with Gauze Packing"—Alice Ewing, Chicago.
- "Politzer Air Bag"—W. H. Baker, Lynchburg, Va.

Papers have also been promised by Dr. Max Thorner, Cincinnati; Dr. Edwin Pynchon, Chicago; Dr. J. O. Stillson, Indianapolis; Dr. Homer Thomas, Chicago; Dr. H. H. Brown, Chicago.

A number of interesting microscopical and pathological specimens have also been promised by Drs. Thomas, Westcott, Goldstein and Alt. Several of the local members will present cases, and a separate consideration will be given the presentation of new instruments.

The Chicago meeting promises to be the best and largest in the history of this young special organization.

Application for membership, or for any details of the meeting, should be addressed to the Secretary, DR. FRANK M. RUMBOLD,
449-51 Century Bldg., St. Louis, Mo.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION —SECTION OF LARYNGOLOGY AND OTOTOLOGY.

The sixty-sixth annual meeting of the above Association will be held at Edinburgh on Tuesday, Wednesday, Thursday and Friday, July 26, 27, 28, 29, 1898, under the Presidency of Sir Thomas Grainger Stewart, Professor of Medicine in the University of Edinburgh.

The officers of the Section of Laryngology and Otology are:

President, Peter McBride, M.D.; Vice-Presidents, J. J. Kirk Duncanson, M.D., J. Dundas Grant, M.D., Robert Mackenzie Johnston, M.D., St. Clair Thomson, M.D.; Honorary Secretaries, A. Brown Kelly, M.B., 26 Blythswood Square, Glasgow; A. Logan Turner, M.D., 20 Coates Crescent, Edinburgh.

SOCIETY ANNOUNCEMENTS.

American Laryngological, Rhinological and Otological Society.

The fourth annual meeting (general meeting) of the American Laryngological, Rhinological and Otological Society will be held in Pittsburg, Pa., May 11 and 12, 1898.

Southern Section, American Laryngological, Rhinological and Otological Society.

The Southern Section of the American Laryngological, Rhinological and Otological Society will convene in Atlanta, Ga., March 28, 1898.

The meeting will be held in the parlors of the Aragon Hotel, the headquarters of the Society. Chairman, Dr. A. W. Calhoun; Secretary, Dr. Dunbar Roy.

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ST. LOUIS, MO., APRIL, 1898.

No. 4.

ORIGINAL COMMUNICATIONS.

REMARKS ON RHEUMATIC AND GOUTY AFFECTIONS OF THE THROAT.

BY PATRICK WATSON WILLIAMS, M.D., LOND., ETC.

Physician (Out-Patients) in charge of Throat Department, Royal Infirmary, Bristol;
Physician to Clifton College, and to the Deaf and Dumb Institute, Bristol.

In general medical practice it is the common affections which occupy most of our attention and only too often tax the patience and resources of the practitioner. The rheumatic character of some common throat affections are becoming more generally recognized, but in very many instances the rheumatic affections of the throat are imperfectly understood, while the gouty throat complaints are still more frequently unrecognized. More recent experience has convinced me of my own shortcomings in the past in diagnosing and treating these really common complaints, and the necessity of duly appreciating the relative importance of these throat affections having come before me, I venture to hope that these brief notes may be of some service to others.

RHEUMATIC AFFECTIONS OF THE THROAT.

As regards rheumatic affections of the throat, I may say that I have been unable to observe any characteristic features, and I think that this will at once account for the frequency with which the

true nature of these affections remain unrecognized. In this connection I would quote from a recent communication, jointly, by Sir Felix Semon and myself: "The causes of rheumatic affections of the throat differ in no respect from those of rheumatic affections occurring in other parts of the body; nor can it be said that there are any distinguishing characteristics of rheumatic pharyngitis, tonsillitis or laryngitis. The very intimate pathological connection between acute lacunar tonsillitis, peritonsillitis and acute rheumatism is now widely recognized; but it is important to remember that a large proportion both of acute and chronic pharyngitis and laryngitis are of rheumatic origin, for success in their treatment will very much depend on a correct diagnosis. Pain, stiffness and inflammation of the fauces very frequently precede an attack of acute rheumatism, and either subside or are disregarded when the acute joint symptoms are manifested.

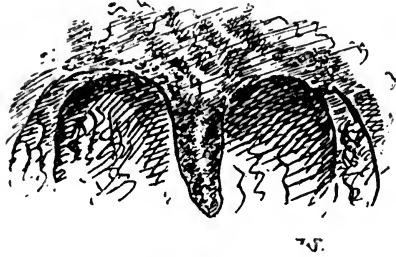


FIGURE 1.

In other cases the throat symptoms persist for days or weeks without further development, and not seldom recur regularly whenever the patient is exposed to cold or damp.”*

In the more acute cases of rheumatic pharyngitis, the soft palate, especially toward the free margin, the pillars of the fauces, the tonsils and posterior pharyngeal wall will be found somewhat swollen and heightened in color, and in some cases the uvula is œdematous and distinctly swollen. The large majority of cases of acute follicular tonsillitis are rheumatic. The other lymphoid tissue aggregations in the throat at the base of the tongue and in the naso-pharynx are very frequently similarly implicated and they may be the seat of acute inflammation when neighboring parts have escaped. De Havilland Hall† remarks that he has seen several cases where the pharyngeal tonsil has been affected independently of the faucial tonsils, and the pain and suffering the patient has experienced have been greater than is usual in ordinary tonsillitis. He believes that in some of the cases the rheumatic poison is the cause of the complaint.

*Clifford Allbritt's System of Medicine, Vol. iv.

†Lettsonian Lectures, 1897.

Personally I have never seen ulcerations in the pharynx which I have recognized as rheumatic in origin, but Freudenthal† states that he has repeatedly seen benign ulcerations of the pharynx during recent years, which he is unable to interpret in any other way, except that they are due to rheumatism. The cases he relates from his own practice were associated with rheumatic symptoms and the ulcers healed rapidly under anti-rheumatic drugs.

Freudenthal refers to similar cases observed by Thorner and Heryng, and to another case of Westbrook's, where extensive ulcerations of the pharynx took place, due to rheumatism. He further remarks that in Heryng's cases and his own "we have always an ulcer which was one-sided, solitary, and which remained solitary, too. It had a typical form and size, appeared under the picture of a catarrhal angina, and healed without leaving a cicatrix. * * * Regarding the seat of these ulcers, I do not think we are as yet justified in speaking of certain parts which are predisposed to them. Heryng,

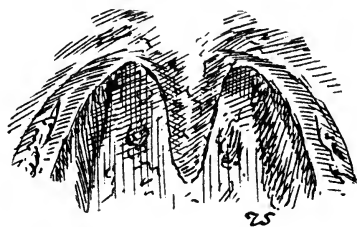


FIGURE 2.

whose so-called benign ulcerations of the pharynx I now accept as of rheumatic origin, found them at the anterior pillars; I saw them in four out of five cases on the pharyngeal wall, while Thorner considers the posterior pillars of the fauces (one case of Freudenthal's), the root of the tongue, etc., as the places mostly predisposed to rheumatic attacks." Freudenthal's patients who were treated with salol were cured in three to six days.

Laryngeal affections of rheumatic origin may be easily recognized as such where associated with general symptoms of rheumatism or with rheumatic pharyngitis and tonsillitis. But if occurring independently it is very easy to misinterpret their true nature, and often enough a correct diagnosis is possible only by excluding all other causes. The laryngoscopic appearance of rheumatic laryngitis is, as I have already remarked, neither characteristic nor peculiar, but is merely that of simple laryngitis.

But it appears to have a tendency to affect the crico-arytenoid joints. Swelling may or may not be apparent, but if the joints are

†New York Medical Record, February 16, 1898; p. 195.

implicated, the movements of the corresponding vocal cords are impaired, and more or less persistent fixation of the vocal cords is liable to result. Doubtless some of the so-called rheumatic paralyses of the vocal cords are really due to crico-arytenoid ankylosis from rheumatic arthritis. Nevertheless, it seems impossible to account for other cases of true vocal cord paralysis except by rheumatism, and I certainly believe that rheumatic inflammation may rarely directly attack the intrinsic muscles of the larynx and peripheral nerves. De Havilland Hall, however, states "that he cannot give adhesion to the view that the muscles of the larynx may be affected with rheumatism to give rise to impaired movement of the vocal cord. In any case, the diagnosis of rheumatic paralysis of the vocal cord should never be made until all other possible organic causes of the paralysis have been excluded, and undoubtedly such cases of rheumatic paralysis are only very rarely encountered. Often enough the *only* physical evidence of a thoracic aneurysm is paresis or paralysis of one vocal cord, and a similar laryngeal condition may be due to an enlarged gland in the posterior mediastinum, tuberculous thickening of the pleura of the apex of the right lung, cancer of œsophagus, etc., etc., and the recollection of these and numerous other possible causes of laryngeal paralysis should make us very guarded in aiming at a diagnosis of rheumatic laryngeal paralysis, lest we overlook some grave organic lesion which would completely alter the prognosis and call for very different treatment.

While in our present state of knowledge it would serve no useful purpose to discuss here the evidence in favor of any particular microbes being the "materies morbi," there is now little room for doubt that true rheumatic affections are directly due to the introduction of one or more micro-organisms into the body, generally by inhalation, and thus we can readily understand that the pharynx and larynx should frequently suffer first and often bear the brunt of the infection.

"We speak of rheumatic angina just the same way as we speak, for example, of a scarlatinous angina. We may, with Fiedler, consider the rheumatic angina as the first effect of the virus, which was inhaled with the air and caught in the tonsils or neighborhood." (Freudenthal.)

Other infectious diseases, such as diphtheria and septic affections, are, in these respects, analogous to rheumatism, the primary seat and subsequent development depending, in all probability, upon accidental breaches of the protecting surface through which the pathogenetic micro-organisms gain entrance and develop the various characteristic clinical conditions associated with these diseases.

GOUTY AFFECTIONS OF THE THROAT.

Common as rheumatic affections of the throat are, still more frequently do we encounter gouty disease of the throat. This is probably in part due to the fact that gout is a more chronic disease than rheumatism. Again, many of the slighter rheumatic affections undergo spontaneous cure, and the more acute are either regarded as a distinct disease, e. g., tonsillitis, or are merged in polyarticular acute rheumatism, while, on the other hand, gout is a constitutional diathesis, and the symptoms persist. Moreover, the throat is very often affected when no definite evidence of gout is present.

The throat affections of gout may assume the acute or chronic form.

Acute gouty pharyngitis and tonsillitis are usually accompanied by much pain, especially severe on swallowing, the act of deglutition being productive of fairly sharp pain, radiating to the ears. It is interesting and instructive to note that Morell Mackenzie observed a patient who was suffering from acute pharyngitis, when the symptoms suddenly disappeared, and an acute attack of gout developed in his great toe of his right foot, but after three days the gouty inflammation of the toe disappeared and acute hyperæmia of the pharynx supervened.

In acute gouty pharyngitis, or laryngitis, the parts affected are acutely inflamed and bright red, the pharynx presenting a gorged, congested, glazed appearance. The inflammation, as a rule, is strikingly patchy in aspect. The uvula is sometimes much congested and swollen, or even œdematous. The tonsils do not suppurate, but the intense redness and soreness, as has been remarked above, may yield suddenly to an acute articular attack. The gouty pharynx is usually excessively irritable, and in several cases I have been quite unable to get a view of the larynx, even the most cautious and gentle attempts at laryngoscopy setting up such violent retching that I have been compelled to desist, despite the application of cocaine solution. Chronic disease of the pharynx generally results in considerable thickening of the lateral walls; indeed such bilateral thickening, with a sense of uneasiness or pain of a darting character and shooting up to the ears, is strongly indicative of gout, and careful inquiry in the family and personal history should be made, while any evidence of the gouty diathesis in the general condition of the patient should be sought for. I recall the case of a clergyman who came to me suffering, from a painful sore throat and loss of voice. The fauces were intensely injected, there was thickening of the lateral walls of the pharynx, and he complained of severe pain, especially on

swallowing; the larynx, too, was much congested and the voice almost inaudible. There was no history of gout or rheumatism to be obtained, but he had an indefinite, somewhat painful, swelling about one elbow-joint, and this, taken in conjunction with the fairly characteristic aspect of the pharynx and larynx, led me to diagnose gout, a diagnosis that was confirmed by rapid improvement of the patient under appropriate treatment.

Very rarely urate of soda deposits have been observed in the pharynx; thus Duckworth, in his treatise on gout, cites de Mussy's case of granular pharyngitis, in which small masses, consisting of carbonate and urate of soda, were discharged several times daily from the mucous follicles.

Chronic or sub-acute gouty laryngitis is usually attended with constant, irritating cough, and, in many cases, with pain, sometimes considerable, referred to the laryngo-tracheal region, and some external tenderness. Small quantities of sticky mucus may be hawked up, and occasionally the expectoration is streaked with blood. More or less hoarseness is usual, and in well-marked or persistent gouty laryngitis the voice may be quite lost.

Objectively the vocal cords will be found brightly injected; in slighter cases the hyperæmia is patchy; in the more severe, the redness of the cords is completely diffused, and the thickening, with irregularity of the margins, may be sufficient to produce aphonia. The ventricular bands and inter-arytenoid folds are usually similarly affected. Small tophi have been observed on a vocal cord and in the crico-arytenoid joint, though such conditions are exceedingly rare. In at least two cases gouty deposits in the laryngeal mucous membrane have been diagnosed as cancer, and the local redness and growth-like thickening, accompanied by considerable pain, might readily be mistaken for malignant disease by even skilled observers, without careful enquiry into concomitant symptoms. Thus Morell Mackenzie met with a case of gouty inflammation, producing fungous ulcerations of the left ventricular band, resembling cancer so strongly, objectively as well as in the subjective symptoms, that he *suspected* it to be cancer, and discussed the possible necessity for a radical operation. This patient got perfectly well under treatment for gout, but the candid statement by one of Mackenzie's experience shows how difficult it may be to arrive at a correct diagnosis.

Laryngeal spasm is sometimes due to gouty states. I have met with a patient, a physician, in whom, whenever he was at all indiscreet, or other than most careful in his diet, he got dyspeptic and gouty, and in the middle of the night, during sleep, he would get a

laryngeal spasm which made him spring out of bed in an agony. Prof. Clifford Allbritt* has also recorded a precisely similar case.

TREATMENT.

I propose to add but a few words on the subject of treatment, for, when rheumatism or gout has been correctly diagnosed as the pathological cause of a throat complaint, the treatment is usually a comparatively simple matter. No constant local applications, disagreeable to the patient and tedious to the practitioner, and which objective appearances may have suggested, are called for, and reliance on any local measures can only end in failure and disappointment. A sedative spray or pastil may be prescribed with advantage, to relieve local discomfort or irritability, pending the beneficial result of appropriate general treatment, which it is unnecessary and out of place to discuss at any length here. Salol, salicin, or the salicylates will probably suggest themselves in rheumatic affections, while colchicum and its preparations, iodide of potash, Vichy water, Ems water, together with a suitable dietary and suitable hygienic surroundings, will rarely fail to relieve the gouty.

*Allbritt's System. Vol. IV., p. 750.

Holocaine in Oto-Laryngology.

According to Dr. Coosemans, holocaine offers several advantages over cocaine; it is less expensive, less bitter, does not produce nausea or contractile sensations, or cerebral excitation; does not contract the blood vessels, and never produces toxic symptoms. (*Revue Hebdomadaire de Laryng., d'Otol. and Rhin.*, December 18, 1897.)

Holocaine forms unalterable solutions, which are antiseptic, and, therefore, do not require sterilization. It should be used in the strength of one per cent.

(The comparatively small extent to which the new local anæsthetics have been employed should prevent us from making unguarded statements as to their non-toxic character. The non-contractile effect of holocaine, as of eucaïne, is a serious impediment to its application for nasal surgery, in which the contractile effects of cocaine, by enlarging the field, is secondary in importance only to its anæsthetic effects.)

SCHEPPEGRELL.

ANOTHER CONSERVATIVE OPERATION FOR THE REMOVAL OF NASAL SYNECHIA.

BY J. A. ELLEGOOD, M.D., WILMINGTON, DEL.

In the January number of *THE LARYNGOSCOPE*, Dr. W. Scheppegrell describes a method of removing nasal synechia at one sitting, by means of the cold-wire snare. About four years ago a somewhat similar method was adopted by the writer for removing a synechia that had resisted various other methods of treatment. Since that time two other cases were presented for treatment and yielded to the method finally adopted in the first.

Case 1. C. R., aged twenty-four, consulted the writer in the spring of 1894, on account of obstruction to nasal respiration. Examination revealed a synostosis in the left side of the nose, extending from the inferior turbinate to the septum, at about the junction of the middle and posterior thirds. This bridge was about one-fourth of an inch in its vertical diameter, and apparently a little more antero-posteriorly. There was a free space above and below. It was evidently of congenital origin, as the nose had never been subjected to surgical treatment. An exostosis, resembling those that occur in the external auditory canal, existed in the floor of the right side of the nose at a corresponding point. Both the synostosis and the exostosis were removed by means of drills run by an electric motor, and the space between the raw surfaces of the left side packed lightly with iodoform gauze. The packing was renewed every day or two until it became so irritating that its use was discontinued. As no other foreign body would be tolerated the two surfaces became united, forming a membranous adhesion. This was subsequently removed by means of the knife, and the surfaces cauterized with trichloracetic acid, but with the same unsuccessful result. It occurred to the writer that the removal of the synechia might be accomplished by encircling it with a silver wire, gradually tightened at short intervals, until it cut its way through in the same manner that warts and pedunculated tumors are sometimes removed from the skin. Accordingly, after cocainizing the part, a No. 27 silver wire was pushed through a small silk urethral catheter, the distal end of which had been cut off obliquely. The wire was pushed through until it extended beyond the cut end of the catheter, when about an inch of the end of the wire was made to curl upon itself by being drawn between

the forefinger and the edge of the thumb-nail, as a hair may be made to curl by the same means, the surface next the nail becoming slightly flattened. The protruding end of the wire was then withdrawn until it came in opposition with the beveled edge of the catheter. The latter was introduced from above until just past the synechia, when the wire was pushed forward. The end of the wire then lay on the floor of the nose beneath the synechia. It was grasped with a pair of forceps and pulled out as the wire was fed through the catheter. The superfluous wire being cut off, the two ends were grasped with a pair of artery forceps and twisted sufficiently to cut off the circulation without cutting into the tissues. After the use of cocaine, two or three turns were made every day or two, until at the end of a week the wire had separated the adhesion, leaving but a tiny point of broken surface as the result of the last two or three twists. The parts were dusted with aristol, and cocainized vaseline applied frequently by the patient, to keep the surfaces apart for a few hours, after which healing was complete. The surfaces have ever since remained well apart.

Case 2. Miss S., aged thirty-five, consulted me in October, 1895, on account of a broad synechia of the right side of the nose. It had resulted from application of the electric cautery for the reduction of an hypertrophied inferior turbinate. Its removal was promptly effected in one week by the use of silver wire, applied as in Case 1. Since that time there has been no return, and she has had no discomfort whatever.

Case 3. G. M., aged twenty-one, applied for treatment of an extensive synechia of the right side of the nose, extending fully two inches in length. The septum had a marked convexity to the right and a decided spur on the same side, to which the inferior turbinate was attached as far back as could be seen by anterior rhinoscopy. This synechia was also caused by the galvano-cautery. Mindful of the fact, to which attention was first called by Dr. T. R. French, of Brooklyn,* that cut surfaces in the septum will become adherent to scar-tissue on the turbinates, made by the galvano-cautery at some previous time, it was decided to first remove the septal spur before using the wire. The membranous adhesion was cut away from its attachment to the turbinate, and the spur with the adherent membrane removed by a saw. No attempt was made to prevent formation of the adhesion, which speedily occurred.

Six weeks later, after several unsuccessful attempts to encircle the synechia with a wire, in the manner adopted in cases 1 and 2, the

*New York Medical Journal, No. 835, 1894.

following method proved successful: A long wire was pushed in a small catheter, the end of which had not been cut off. The catheter was introduced above the synechia and pushed onward until it appeared in the pharynx. It was then grasped by a pair of forceps and brought, with the wire, out at the mouth; then it was carried, without the wire, beneath the synechia until it again appeared in the pharynx. The end was brought sufficiently forward to allow the wire to be attached. The catheter was then withdrawn from the nose, bringing the wire on the under surface of the synechia. The superfluous wire being cut off, the ends were twisted, as in the other cases. In ten days it had cut its way through, leaving both surfaces covered with epithelium. In all three cases the retraction of the tissues after operation was very marked, leaving no evidence that a synechia had ever existed. In no case did the wire appear to occasion any irritation or discomfort. While these adhesions are often caused by the unskillful use of cutting instruments and chemical cauteries, the galvano-cautery is undoubtedly the most frequent source of this sequel to operative procedures in the nose. Unless some special precaution is taken to protect the opposite side of the nostril, it is often difficult to effectively apply the galvano-cautery in this region without causing a synechia. Lenox Brown claims that the ivory blades of his nasal speculum reduce the danger to a minimum. Stoerk, of Vienna, uses a speculum, through which cold water circulates during the operation. Unfortunately, these instruments cannot be introduced far enough into the nose to afford much protection to the deeper parts. Seiss† has recommended the use of a strip of Bristol board to protect the septum. The writer has for several years used strips of asbestos paper for the same purpose. Being soft it produces no injury or discomfort, readily adapts itself to the surface against which it is applied, can be thoroughly sterilized by a flame before using, and is a good non-conductor of heat.

†Burnett's System of Diseases of the Ear, Nose and Throat. Vol. I.

AN OPERATION FOR CORRECTING DEFORMITIES OF THE NASAL SEPTUM.

BY LEONARD KEPLINGER, M.D., WAXAHACHIE, TEX.

Of late a great deal has been written on the subject of nasal obstruction, due either to a deflected septum or to spurs growing from the septum, projecting into the nasal cavity. And various operations have been suggested and accurately described for the relief of this condition. This, of itself, is adequate proof that the results obtained in this particular branch of nasal surgery is by no means always gratifying, either to operator or patient.

It must be admitted by all that each case is a law unto itself, and no one method can always be adopted in operating in the nasal cavity. But we can adhere to the rule, in general surgery, and it is here that I wish to apply that rule in making an effort to obtain union by first intention, which is next to impossible by the methods of operating now generally employed, especially where it is necessary to remove a part of the septum. And following these methods of operating, the result has almost invariably, in my practice, been a delay in healing of the cut surface, and in some instances it has been a slow and tedious process, so much so that where patients were unable to remain under my immediate care but for a few days I have declined to operate.

We all know it is almost impossible to keep a wound in the nasal cavity aseptic any length of time, and this can only be done at all by packing the cavity with some antiseptic material. This the patient soon rebels against, and the dressing has to be removed and the wound treated as an open wound. Hence, it becomes our duty to make an effort to obtain union by first intention. This, I think, can nearly always be accomplished when the operation is done as directed in the two following cases which I report as illustrations:

Case 1. R. B., age thirty-five, farmer, gives the following history: At the age of nine he fell from a horse and fractured his nose; was attended by family physician; made a rapid recovery without any perceptible deformity; respiration was never quite free on the right side; has gradually grown worse, and for the past five years has been wholly unable to breathe through his right nostril; has been treated by several physicians without relief; complains of his throat and thinks he has catarrh.

On examination, I found his right nasal cavity completely closed by the septum, which was greatly thickened and deviated to the right. It was lying in contact with the inferior turbinated body, which presented a sodden appearance, completely obstructing respiration on that side. The nasal cavity was larger than normal on the left side and respiration free. The pharynx presented a granular appearance. The nasal cavity was sprayed with Dobell's solution. I then wiped out the cavity with small pledgets of cotton, wound around an applicator. This was repeated until the nasal cavity was thoroughly cleansed. I then applied a four per cent solution of cocaine to the mucous membrane of the septum and turbinated bodies. A plug of antiseptic cotton was next introduced into the nasal cavity beyond the seat of the intended operation, to prevent any secretion from flowing over the field of operation, and the blood from flowing into the pharynx, thereby delaying the operation, by the patient expectorating blood. The surface to be operated on was again cleansed, and five minims of a four per cent solution of cocaine was injected beneath the mucous membrane over the structure to be removed. I then bound a towel around the face, letting it come over the mouth and up to the nose, thus preventing the blood from flowing into the mouth. A horizontal incision, three-fourths of an inch in length, was then made through the mucous membrane, over the most prominent part of the septum, with a small Beer's cataract knife. The edges of the wound were grasped with a pair of straight iridectomy forceps, and the mucous membrane dissected from the underlying structure, both above and below, some little distance beyond the point which I desired to remove. This was done to prevent the soft parts from being injured by the saw. The wound was next separated, as wide as possible, with a pair of forceps. I then introduced a small Bosworth saw beneath the denuded surface, with the cutting edge up, and removed a large piece of the protruding septum (about one-half inch in length). The saw did not communicate with the left nasal cavity, thus leaving a thin portion of the septum to separate the two nasal cavities. Hemorrhage was only moderate and readily arrested by hot water and compression. The edges of the mucous membrane were brought together and retained by three interrupted sutures of thin silk.

In closing these wounds in the nasal cavity we only have a very limited space to work in, and it can only be done with a short curved needle, held in a slender needle-holder, beginning at the posterior extremity of the wound, passing the needle through the upper flap from above downward, then grasping the needle near the point and

pulling it through; then catch up the lower flap of the mucous membrane with a pair of iridectomy forceps and pass the needle through, as in the above; grasp the needle again on the other side and pull it through, then tie as in any other wound. This is continued until a sufficient number of sutures have been introduced to close the wound, which will generally take from one to three. The posterior plug is now removed, the whole surface thoroughly cleansed, and the cavity lightly packed with small strips of iodoform gauze. This was changed daily until the third day when it was entirely removed. Union had taken place by first intention and the sutures were removed on the fourth day. Patient discharged one week after operation, wound thoroughly healed, respiration free.

Case 2. H. C., age twenty-four, lawyer, no history of traumatism; general health good; catarrh for past four years.

On examination I found a bony projection from the nasal septum, almost filling up the left nasal cavity, coming in contact with the inferior turbinated body. There was no depression on the opposite side. I at once determined to operate. After preparing the parts, as in case 1, I made an incision over the bony projection and dissected up the mucous membrane from over the part to be removed. Applied the Bosworth saw as in the above case. Hemorrhage was soon arrested and the wound closed. The technique of this differed in nowise from case 1. The dressing was changed daily until the third day. It was then discontinued and the stitches removed. Union had taken place by first intention, and the patient was discharged, with free respiratory tract on operated side.

The main point in the above operation to which I desire to call attention is the comparatively short time it takes the wound to heal. These cases can always be discharged in from three to seven days, and it is rarely necessary for the patient to carry out any further treatment. This cannot be said of any operation in which the mucous membrane has been destroyed over a considerable surface, as must necessarily follow an operation on the nasal septum, as it is done by the usual method of operating. However, I do not claim that my method can be adopted in all cases, neither do I expect it to succeed all previous methods of operating, but I do believe that it can be employed in the majority of cases, and that a careful comparison with the usual methods of operating on the nasal septum will commend it. The technique is simple and can be carried out by anyone accustomed to operating in the nasal cavity. In conclusion, I would add that I have only followed the principles of general surgery to get union by first intention, and in no way do I claim to be original.

FACIAL HEMIATROPHY, CAUSING DEFORMITY OF THE SEPTUM NASI. REPORT OF A CASE.

BY JOHN A. THOMPSON, M.D., CINCINNATI, OHIO.

Miss C., aged thirty, an unusually well developed, robust appearing woman. She had a severe fall as a child but no immediate injurious effects were noticed. Up till the age of fifteen years her facial development was regular. This is shown by her history and by photographs taken before that time. Shortly after her fifteenth birthday it was noticed that the development of her face was becoming slightly irregular. So far as I have been able to learn, there was no neuralgia, no pain or other symptom to call attention to the condition, except the defective development of the left side of the face. This change, which seems to affect only the superior maxilla and the left half of the inferior maxilla, has been constant and slowly progressive from that time until the present. The left upper jaw is notably smaller than its fellow of the opposite side. The left half of the lower jaw is lessened in all its diameters, from the condyle to the median line. The left central incisor was removed six years ago in order to give room for the remaining teeth in the shrinking jaw. The gap made by its removal has been completely filled by the crowding forward of the teeth. Owing to the pressure and to the absorption of the alveolus, the crowns of the teeth in the left half of the lower jaw are turned in toward the center of the mouth. The crowns of the teeth in the upper jaw are turned out toward the cheek. There is some deformity of the soft palate, as the result of the atrophy of the upper jaw. For the same reason the left eye is on a lower plane than its fellow on the right side. The septum nasi is badly distorted. Two operations have been necessary to restore the lumen of the right side. The first was made three years ago; the second operation, in December, 1897. The ears are apparently normal. There is some eczematous inflammation of the left auricle. The skin over the cheek appears normal. The hair is not affected. Perspiration is as free on one side of the face as on the other. Tactile sensibility is the same in the skin of both cheeks. The tongue is not involved in the atrophic process which seems to affect only the left upper maxilla and the left half of the lower maxilla.

REMARKS ON PHARYNGEAL MYCOSIS.*

BY JONATHAN WRIGHT, M.D., BROOKLYN, N. Y.

For a long time mycosis of the throat was regarded as of rare occurrence; of late years, however, he thought that it had been more generally observed. Whether this was because our attention had been directed to the condition by the report of many cases, or whether here in New York, the atmospheric or other unknown conditions have changed in such a way as to favor the growth of the fungus in the throat, he was unable to say. At any rate, few months pass during which he does not see, either in private or dispensary, one or more cases in which the mycelium had grown sufficiently in the crypts of the tonsils, especially the lingual tonsil, to be recognized by the naked eye. It is a fact which should never be lost sight of, that the spores of this fungus, and even the mycelium threads themselves were nearly always present in the buccal or pharyngeal cavity.

When some unknown change occurs in the climate or the soil of the mouth and of the pharynx, it induces a growth of the germs to such dimensions that they are visible to the naked eye. The destruction of all the lymphoid tissue removes the crypts and sinuses in which the fungus finds conditions most favorable for its growth, and were these the only places where it sprouts, the treatment would be comparatively simple, but as a matter of fact, where the unknown conditions are favorable, it also sprouts out of the mouths of the racemose glands of the mucous membrane.

In the cavities of carious teeth it also finds a lurking place. These being the facts, the proper line of treatment was to burn or to cut away the lymphoid tissue wherever it may be in the pharynx, to have the teeth put in proper order, to have the patient wash any extra secretions away, there may be in his nose and throat, by douches, gargles, and if failure follow these procedures to effect a cure, the patient should be sent to a different locality, and, if possible, to a different climate. Change of climate or of locality, for even the latter without the former, is frequently efficacious, is really the most reliable plan of treatment.

But, as a matter of fact, very many cases have absolutely no symptoms referable to the mycosis, and many have very slight

*Delivered at the meeting of the Laryngological Section N. Y. Acad. of Medicine, February 23, 1898.

symptoms, while a still larger number are unable to change their climate or their locality. The large majority of cases, therefore, need not or cannot be sent away and, as a rule, after a while either suddenly or gradually some change apparently takes place in their pharyngeal climate or soil, upon which the cases either suddenly or gradually get well. If, during this time, some application is being made to the end branches of the fungus, that particular drug acquires in the hands of the operator, an undeserved reputation. If the morphology is carefully studied and properly understood, it would be impossible for any one in their proper senses to believe that topical applications will eradicate this mouth weed. It would be quite as sensible for the farmer to sprinkle his garden weeds with paris green instead of digging them up; but here the analogy fails, for the laryngologist cannot, for obvious reasons, dig out all the roots of this pharyngeal plant. He can, however, to some extent keep them under control by constant pruning and by destroying the large clumps which grow in the larger holes of the mucous membrane.

In the slides which he had prepared the members would notice under the microscope how the mycelium grows in the crypts of the lymphoid tissue of the case, shown by Dr. Berens. For obvious reasons they were not able to remove a strip of the mucous membrane itself and show in sections how it grows in the acini of the racemose glands; the members would have to simply take the speaker's word for it that he had occasionally seen it there, and if they would observe some cases closely they would see very slender, hair-like threads, only much finer than thread or hair, growing out of mouths of the glands of the mucous membrane. In one case he had seen this phenomenon so marked that the greater part of the posterior pharyngeal wall had upon it these waving, cilia-like mycelial threads, reminding one of the downy hairs of an infant's skin.

Under the low power objective, the mycelial threads may be seen lying in closely packed parallel rows in the crypts close against the squamous epithelium, which is thickened and whose outer layer of cells, those next to the fungus, are being desquamated and are protruding in places, between the mycelial straws. In no place does the fungus penetrate through the epithelium into the subjacent tissues. Under the high power objective (oil immersion $\frac{1}{12}$) the tiny spores of the mycelium may be seen, even with the ordinary, hematoxylin-eosin stain scattered upon the threads like seeds in the straw. They are so very small that myriads of them could float into the mouths of the racemose glands. They are, however, never seen in or among the epithelial cells lining the crypts until the latter becomes separated from those lining the crypts on the gland walls.

There was a great deal more to be said of mycelium which is called the leptothrix buccalis, but that belonged more properly to bacteriology and he did not care to weary them by repeating what they already knew or could ascertain from the bacteriological text-books.

He added that apparently these spores, developing in a crypt into the full grown threads, dilated and separated its walls. This also he thought took place in the glands, especially at their mouths.

It is impossible always to differentiate the involution forms of the different kinds of buccal mycelia.

In the specimen of Dr. Berens, the leptothrix buccalis predominated; long, straight, stiff, uninterrupted straws, taking the gentian violet stain in their centers or pith, and the outside layer remaining unstained or taking the iodine feintly.

There was also noticed what Miller calls the "bacillus maximus buccalis." This is a jointed rod fungus, the joints of the contiguous rods being more or less uniform in length, but the separated bundles of rods vary in the length of their joints. They take the iodine stain used in the Gramm method strongly. Then we have the spores spoken of before, taking the gentian-violet stain deeply. Some of these spores apparently belonged to the bacillus maximus buccalis, taking the iodine stain. The spores of the leptothrix may be seen in the stalks themselves. Then there are long bacillus-like rods, straight or curved, which may be the evolutionary forms from the spores to the full grown leptothrix stalks.

These two mycelial varieties and their evolutionary forms are in many places indiscriminately mingled together, the two varieties, at least in their full grown forms, sharply differentiated by the leptothrix, taking the aniline gentian-violet stain, and the bacillus maximus taking the iodine color.

Dangers of Thyroidectomy in Exophthalmic Goitre.

Dr. Poncet states that thyroidectomy in exophthalmic goitre has had an immediate mortality of from fifteen to thirty per cent, and should, therefore, be abandoned or confined to resection of the sympathetic nerve in cases in which the tumor is not very large. (*Proceedings of the Society of Paris*, 1897.) Where danger of suffocation is imminent from pressure upon the trachea, relief may be given by long incisions over the hypertrophied gland.

SCHEPPEGRELL.

A CASE OF SO-CALLED RECURRENT OR CHRONIC ABSCESS OF THE SOFT PALATE.

BY GORDON KING, M.D.

Senior Resident Surgeon, Eye, Ear, Nose and Throat Hospital, New Orleans, La.

M. P., thirty-eight years of age, is a man of large frame and robust constitution; gives no history of hereditary tendency to gout or tuberculosis, and no personal history or objective evidence of syphilitic infection or other constitutional disease, and is not addicted to the use of tobacco or to alcoholism. Six years ago, according to patient's statement, he had a severe tonsillar inflammation, which subsided after several days by a discharge of pus. Does not remember upon which side the trouble was located at that time.

After the subsidence of this attack he enjoyed a freedom from any throat trouble until the month of August, 1897, when he suffered another seizure of intense sore throat, similar in nature, he says, to the attack six years before. For ten days he endured the severest pains on swallowing, salivation, stiffness of the jaws, fever and other phenomenas, associated with abscess formation in the tonsillar region, and finally he consulted his family physician, who advised incision into the inflamed parts. Subsequently an incision was made into the soft palate above the tonsil, on the right side, where the seat of inflammation was located, but no pus was evacuated. Three or four days later relief came, as the result of the spontaneous rupture of the abscess and discharge of a considerable quantity of pus. The acute symptoms rapidly subsided, but there remained a constant annoying sensation in the throat, which the patient described as being not exactly pain, but rather a feeling of discomfort, which led to frequent expectorations and attempts to clear the throat. Occasionally he experienced a slight access of soreness, referred to the right side of the throat, accompanied by the discharge of a very small quantity of pus that he noticed in his expectoration.

At the time of his entrance into the clinic, October 7, about two months after his acute attack, examination revealed some hyperæmia of fauces and soft palate, especially on right side, with very slight enlargement of the tonsils, which appeared otherwise healthy. Near the middle of the anterior pillar, on right side, was seen the orifice of a small fistulous tract, and when probed this tract was found to extend to the depth of a half-inch upward and backward to the supratonsil-

lar space, and into the substance of the velum near the juncture of the two pillars. There was no cicatricial tissue induration, thickening or ulceration about the parts, or any adhesions of the tonsil to the faucial pillars. The opposite side appeared normal, and, apparently, had not participated in the recent acute inflammation of the right side. There was no fluctuation about the inflamed parts, and no pus escaped upon the introduction of the probe into the fistula. An application of chromic acid was made to the tract and the patient given an alkaline sedative gargle and told to report at the clinic within a few days.

Eight days after having been cauterized a second time the patient returned, complaining of having suffered considerably with his throat. The fauces and palate on the affected side were quite inflamed, and upon the introduction of a probe into the still existant fistula a quantity of whitish caseous pus exuded, coming, apparently, from the supratonsillar space, or substance of the soft palate itself.

It was then decided to apply the galvano-cautery; so at a subsequent visit, two days later, the parts were cocaineized and the entire tract laid open by means of a cautery knife and biting forceps. In the course of a few days the parts had healed and the patient felt relieved of his sore throat and disagreeable sensation.

The above described case, which I had occasion to observe in the laryngological clinic of Professor Moure, of Bordeaux, impressed me as being particularly worthy of note, from the fact that it is so typical an example of that class of cases so recently brought into notice by Cartaz, of Paris, communication made to the *Société Française de Laryngologie*, May, 1897, and consigned to a separate category among the affections of the soft palate. In a thorough research among the literature I have failed, as did Cartaz, to find any previous description of these cases, except a few cases reported by Ripault and Ruault, which, though described in the consideration of the subject of chronic peritonsillar abscesses, differ only in a certain degree from the case under consideration.

The nature of these cases must not be confounded with that of chronic tonsillar abscess, of which much has been written in recent years, and which, also, are often associated with fistulas, traversing one of the faucial pillars, and accompanied by very similar subjective sensations. It will be seen that in such cases the tonsil itself is the seat of the inflammatory process, and that there is either a collection of pus inclosed in one of its crypts, or that an existing fistulous tract leads to the seat of inflammation and gives exit to a discharge of pus, the velum palati being in no wise concerned in the pathological pro-

cess. In the cases described by Cartaz, in two of Ruault's cases, and in the one which I have been fortunate enough to observe with Dr. Moure, the tonsils were not the seat of suppuration, which resulted rather from an independent process, localized within the substance of the soft palate, or in the small cellular area formed by the juncture of the two pillars above the tonsil, and known as the supra-tonsillar space. No clearer idea can be given of the affection than is conveyed by the following descriptive lines, taken from Cartaz's original memoirs on the subject: "They are, in fact, chronic fistulous abscesses in the tissues of the soft palate at the level of the juncture of the two pillars. Fistula, rather than abscess, for the trouble provoked by that lesion is of little importance. It is a form of chronic abscess of the supra-tonsillar fossa, with extension into the velum palati, whether or not there may exist a fistula of congenital origin, a kind of small diverticulum, containing more or less high toward the base of the uvula, or, on the contrary, a true fistula, remaining as the last trace of an acute suppurative inflammation." Thus, it may be observed that it is especially from a pathological point of view that these cases appeal to our interest, and as no occasion has yet been offered wherein a thorough investigation could be made into the true pathology of the affection, we must base our theories upon our knowledge of the anatomical disposition of the affected parts and upon the facts obtained by clinical observation. It has been demonstrated by the anatomical researches of Merkel, and of others, that not rarely there exists in the structure of the soft palate a kind of diverticulum, as it were, of the supra-tonsillar space, extending upward between the two converging faucial pillars toward the base of the uvula.

It is also noted that the supra-tonsillar space, though presenting no anomaly as to its extent, may be partly or completely divided by a membranous partition into cellular spaces. Whether or not these anomalies are the remains of one of the pharyngeal fissures, as has been suggested, or what is their true origin, it is useless to theorize upon in this connection. Their existence, however, gives us some insight into the probable history and the behavior of the lesion under consideration. When we admit, as is also stated, that these diverticula, and often the supratonsillar fossa alone, contain not only cellular tissue but also lymphatic follicles in more or less quantity, being as it were an upward prolongation of the tonsillar tissue, it becomes clear that these parts may be subject to the same inflammations, both chronic and acute, to which the tonsil itself is subject. Propagation of an inflammation from the tonsillar or peritonsillar tissues may readily occur, or the disease process may originate in the glandular tissue included

in the deeper structure of the velum palati. The usual history of the case is that of a chronic or a subacute intermittent inflammation in the soft palate, following an acute peri-tonsillar abscess, which, having ruptured, left a fistulous tract in the palate, through which a more or less constant discharge of pus or caseous matter takes place. The existence of these fistulæ are most constant, and is usually the means which affords a recognition of the disease. Even in those cases where no history of former suppurative inflammation of the parts can be learned these fistulæ are present, and in these cases are, in all likelihood, of congenital origin. As in cases reported by Landgraft, Gard and others fistulæ of the soft palate are seen, not associated with any supuration, but it will be remarked that, in the majority of such cases, the lesion is bilateral and, according to the last mentioned author, can be recognized with little difficulty as being a congenital defect.

They are nearly always found opening on the anterior surface of the soft palate, near the point of junction of the two faucial pillars, and by a slit like orifice, which may only be observed by a close scouting of the region and the use of the probe, but which, when explored, will prove to be the exit of a tract leading to considerable depth toward the supratonsillar space, or upward in the direction of the base of the uvula. When this chronic abscess condition exists there issues from the fistula either a small quantity of stringy pus, or often a kind of characteristic whitish caseous matter, as is seen in chronic follicular tonsillitis. The discharge may be observed to continue more or less constant, but usually occurs at intervals of five or six days, associated with spells of slight inflammatory hyperæmia of the surrounding mucous membrane and an uncomfortable pricking sensation in the throat, which leads the patient to repeated attempts to obtain relief by expectorating or swallowing. The tonsils may be somewhat hypertrophied, and adhesions may exist between the glands and the faucial pillars; more often, however, only a chronic follicular inflammation is present, or the tonsils have a healthy appearance. It is most probable that the cases of apparent idiopathic origin are due, in reality, to primary involvement of the tonsillar tissue, even though the tonsils may have a normal aspect at the time when our attention is directed to the inflammation in the soft palate. On the other hand, the same causative factors producing tonsillar inflammation may influence at the same time, or by preference, this lymphoid tissue in the supratonsillar fossa or the soft palate, and also, when there is a pre-existing fistula infection, may be conveyed by particles of food or other septic agents, gaining entrance from the oral cavity. Whatever may be the form of the chronic abscess of the soft palate from

the point of view of their etiology, whether following in the wake of an acute phlegmonous peritonsillitis or associated with a pre-existing fistula and developing in the course of a chronic tonsillitis, or, independently, the symptoms are much the same, and of slight prominence, and may be overlooked or referred to other causes. It may lead to more serious inflammation and therefore should be radically suppressed. The indication is to lay bare the fistulous tract and the seat of suppuration throughout its entire extent. This is best accomplished by means of the galvano-cautery, using a small knife heated to red heat, after which, with the aid of an antiseptic gargle, the parts heal within the course of a few days, and no further attention is usually necessary.

Submucous Injections of Guaiacol in Laryngeal Tuberculosis.

A brief description of treatment in a series of seven cases of laryngeal tuberculosis by submucous injections of guaiacol, with an illustration of a new modification of syringe, is recorded by Dr. James Donelan (*The Lancet*, December 25, 1897).

The author considers guaiacol superior to other forms of therapy applied, and reports very successful results in the cases which he has had under his care.

The instrument used is made entirely of steel, and can be completely sterilized; consists of a long steel tube with rectangular laryngeal curve, arranged to carry different sized nozzles, armed with short hypodermic needles. The special feature of the syringe is the application of a graduated solid steel plunge, instead of a piston rod and leather washers, thus preventing contamination of the pure guaiacol used. The needles used are short, and inserted into a nozzle with a rounded shoulder, preventing the needle from penetrating too far.

It is in the speedy relief of the dysphagia accompanying these cases that the results of the submucous injection of guaiacol has been most manifest, and it is claimed that in this respect guaiacol is far superior to lactic acid, which, especially when associated with the curette, usually aggravates this distressing symptom.

INTUBATION IN MEMBRANOUS CROUP.

BY S. D. LEDBETTER, M.D., BIRMINGHAM, ALA.

The Southern States have contributed but little to the literature of this subject, and for this reason I have decided to write this paper. Not to discuss the disease or the operation, but to give, as a contribution to statistics, a brief synopsis of my cases, with results. I have a record of forty-eight cases of intubation. I have seen a number of other cases with a view to intubating. In some the symptoms pointed to other conditions than croup—such as acute laryngitis, pharyngeal diphtheria, with swollen tonsils, obstructed posterior nares, etc.

Two or three cases of sudden apnea tracheotomy was done, because of the necessity for immediate relief. Twice I have been forced to do tracheotomy because of not having proper-sized tubes.

So, for sundry reasons, intubations were not done, though called for that purpose. Of the forty-eight cases operated on, about twenty per cent had no pharyngeal deposits.

Cultures and microscopic examinations were made in only a limited number of cases, because it has only been two or three years that Birmingham physicians have been prepared to do that kind of work, and because, in many of the cases, it was not convenient or possible to get cultures. In those cases examined, bacilli were absent in only one.

Of the forty-eight intubations eighteen recovered, or thirty-seven and one-half per cent.

Of the first twenty-five six recovered, or twenty-four per cent. Of the remaining twenty-three twelve recovered, a fraction over fifty per cent. In eight of these latter cases antitoxine was used. Five of the eight cases recovered, or 62.5 per cent.

Of the three antitoxine cases which died, one died suddenly from an obstructed tube about twelve hours after the operation and administration of the antitoxine. In a second case, though diagnosed membranous croup, the diagnosis was uncertain. In the third there was a condition of extreme prostration before the administration of the antitoxine or the insertion of the tube.

So that five recoveries out of the eight is a very good showing, under the existing conditions. These operations were begun while yet the operation was to some extent in an experimental stage, without

previous training or special instruction, and under conditions as unfavorable in many instances as possible.

The cases were scattered over a large area of territory—in adjoining towns and country neighborhoods, and in most instances in the homes of the very poor, where few conveniences or comforts were to be had.

So, all things considered, the results were quite satisfactory.

All of my tracheotomy cases terminated fatally, but the number was too small to be of any value in statistics.

My early experience was a little discouraging; the first case was a success, after which I did nine other operations before getting another successful result.

But latterly the tables have turned and the average is not bad.

A Case of Subglottic Stenosis from Syphilitic Gumma.

In weighing the relative merits of tracheotomy and intubation in these cases, Dr. Damieno offers the following deductions (*Archiv. Ital. di Laryng.*, No. 3, 1897):

1. Except in rare instances, intubation should always be preferred to tracheotomy in all cases of acute stenoses, and especially in children of all ages.

2. Intubation may be substituted for tracheotomy in acute and chronic stenoses of adults, especially when it does not refer to an incurable affection. It is only necessary that the passage of the tube may be effected, and that it will remain in position with a reasonable amount of certainty.

3. Intubation is the best method of permitting the removal of the canula in tracheotomized patients, after the passage has been enlarged by the ordinary catheters or the sounds of Schrötter.

SCHEPPEGRELL.

The Use of Bromide of Ethyl.

Dr. Jauquet claims to have had better results from ethylic bromide when used in the following manner, the dose being ten grammes for operations of short duration: He uses a flask, attached to a lamp, and allows the patient to inhale the vapor for exactly twenty seconds. (*Revue Hebdomadaire de Laryng., d'Otol. and Rhin.*, December 18, 1897.) In this manner he avoids the trismus, which is produced from the longer application in the ordinary method.

SCHEPPEGRELL.

SOME UNUSUAL CAUSES OF OTALGIA.

BY JOHN C. LESTER, M.D., AND VINCENT GOMEZ, M.D., NEW YORK CITY.

Pain in the ear is by no means of uncommon occurrence, and in most cases is due to causes which are readily discovered. The desire of the writers in this instance, however, is to briefly call attention to some of the rarer causes of pain which are of otic origin, but in which the pain is not located, by the sufferer, in the ear proper. Usually in this class of cases the chief symptom complained of is pain, although concomitant symptoms may be present, such as tinnitus, deafness, etc.

Our first reference will be to the class of cases which come under the general term of neurasthenics. The history and treatment of one illustrative case is here given, and is typical of the condition under discussion.

J. B.; occupation, bookkeeper; aged twenty-three; engaged in night work; presented the following subjective symptoms:

Persistent otalgia of acute nature, deep seated and radiating along the floor of the canal to the angle of the jaw, of two weeks' duration, and persistent tinnitus in both ears; deafness not pronounced, and slight vertigo. He was subject to frequent nocturnal emissions, and excessive nervousness and insomnia. His expression was strikingly melancholy. The tuning fork's reaction was such as is found in neurasthenics. The Galton's whistle showed slight reduction of the upper tone limit. The hearing distance for the watch, whisper and speech were practically normal. There was no discernible middle ear lesion. The teeth were unusually sound and healthy, and the otalgia was not affected by any manipulation in this region tending to increase the pain, such as injection of iced water along the gums by means of an ordinary dropper, or the tapping of the teeth with the handle of an applicator.

Our first impression being confirmed by the objective examination, the following treatment was instituted: Small doses of sodium bromide combined with tincture *avena sativa*. The patient was also directed to take cold sponge baths, with his feet in hot water, upon arising. Just before retiring he was ordered to partake of a goblet of milk and a slice of toast to determine the blood to the digestive organs.

The patient reported in four days greatly improved. Same treat-

ment was continued for three weeks, when the patient was discharged, completely relieved not only of the pain and tinnitus, but also of his other symptoms.

So, again, in hysteria we frequently find otalgia as a prominent symptom. In this condition the pain is often intermittent, and usually not symmetrical, invading first one ear and then the other. In fact, this peculiarity of the pain, together with the patient's usually exaggerated nervous condition, may be considered as particularly diagnostic.

Another condition which may give rise to otalgia is the presence of an epithelial scale resting either upon the drum membrane or upon the walls of the canal. Although this seems incredible, the removal of this epithelial debris has in more than one case been followed by an immediate and complete relief of the otalgia.

Again, the introduction into the ear of oleaginous substances, which decompose and unite with the normal contents of the canal, giving rise to automycosis, will often not only produce mere discomfort, but marked and distressing pain. This condition, if not relieved, will readily give rise to an acute middle ear lesion.

Certain drugs, such as salicylic acid and its derivative, the various salts of quinine, the iodides, etc., have been known to produce more or less marked otalgia.

Malarial intoxication not infrequently produces pain in the ear by affecting the auricular branches of the fifth pair.

Nasal stenosis, especially when located in the region of the middle turbinal, are prolific sources of neuralgic manifestations in the ear.

The various neoplasms, whether located in the ear proper or in its immediate region, will many times cause otalgia.

Anemia, the Luetic discrasia and typhoid fever are at times accompanied with more or less marked pain in the ear.

Tonsillitis, pharyngeal and laryngeal ulcerative process, whether tuberculous or otherwise, are occasionally sources of otalgia.

The careful differentiation between true otalgia of reflex origin, or the non-inflammatory, and pain in the ear of inflammatory origin, is by no means an easy matter in all cases, but the experience of the surgeon, together with the various means at hand for making a careful functional examination, cannot fail in most cases to result in a correct diagnosis.

FACIAL PARALYSIS OCCURRING IN THE COURSE OF MIDDLE-EAR DISEASE.

BY J. JACKSON CLARKE, M.B., LONDON; F.R.C.S., ENGLAND.

Assistant Surgeon at the Northwest London and City Orthopedic Hospitals, London.

The striking alteration in the expression of persons who suffer from paralysis of a facial nerve, entailing as it does social disabilities to the patient and constituting, especially in the case of girls, a pronounced source of grief to the family, causes the affection to rank as a serious affliction, though it is neither a menace to life nor is it necessarily associated with pain. It is needless to describe in detail the various symptoms of the disease, but it may be of interest to point out some practical features of such cases of facial paralysis as are met with in the course of suppurative middle-ear disease, especially when the mastoid antrum is involved.

From a clinical standpoint cases may be grouped in three categories:

I. Cases of facial paralysis arising in the course of acute middle-ear suppuration. This event is less commonly observed than in chronic disease, and when it does occur this is usually in severe suppuration, associated with scarlet fever and accompanied by extensive necrosis.

II. In chronic middle-ear disease, either from inflammatory effusion within the aqueduct of Fallopius or from ulcerative damage to the nerve.

III. Cases of paralysis following the mastoid operation. These are due either to inflammation or to injury of the nerve in the course of operation.

The chief practical aspects of such cases will best be illustrated by giving briefly the outlines of some typical cases:

Case I.—A little boy, aged six years, who was sent to me on his discharge from a fever hospital, where he had been operated on for acute necrosis of the mastoid following scarlet fever. In this instance complete paralysis of the left facial nerve was observed some days before the operation was performed, and thus there could be no question of the condition having been caused by the surgeon. When he came into my hands the paralysis was complete and was associated with absolute deafness on the left side. There was no reaction in the muscles to either the faradic or the galvanic current. For six

months he was under my treatment, which consisted in the application of the faradic current and regular syringing through the meatus. There was, however, no trace of returning power in the muscles, and it was evident that the continuity of the nerve had been destroyed beyond repair.

Case II.—A boy, aged three years, came to me with a typical subperiosteal abscess which had formed three days before I saw him, in the course of chronic suppurative disease of the right middle ear. There was no facial paralysis at this time. I performed the mastoid operation and, after fully opening the antrum and clearing away granulations, I found evidence of necrosis of the ossicles so that it

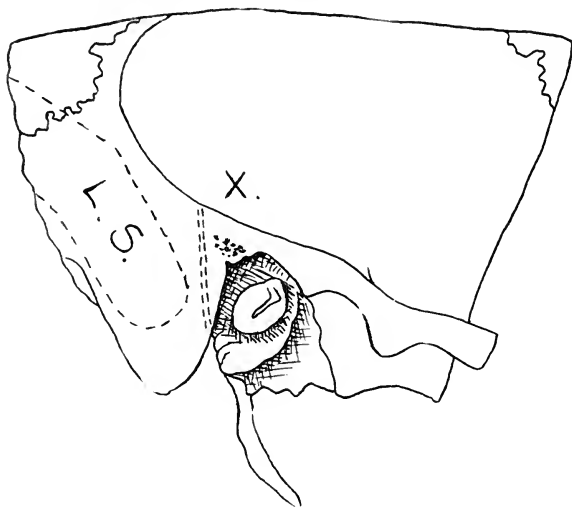


FIG. 1.

The outer surface of the right temporal bone of a boy, aged sixteen. In front of a perforated depression just behind the junction of the roof and posterior wall of the external meatus is the small suprameatal spine (the letter X is placed a little way above the spine). The double interrupted line shows the base of Macewen's suprameatal triangle; the single interrupted line corresponds with the position of the lateral sinus.

was necessary to join the antrum with the tympanum and thoroughly clear out the latter cavity. The isthmus between antrum and tympanum was opened by means of a fine gouge, care being taken to keep well above the aqueduct. During and at the end of the operation a careful watch was observed for any twitching of the face or other signs of interference with the nerve, but nothing was observed. In the course of the first day after operation partial paralysis of the right side of the face supervened and it became complete on the second day. At the end of a week slight improvement was observed and three weeks later the paralysis had completely passed away.

Comment.—In this case the paralysis was evidently not due to any injury of the nerve during operation, but to effusion within the Fallopian aqueduct. This I believe to have been determined by sal-alembroth gauze with which I packed the cavity at the conclusion of the operation. In subsequent operations I have avoided the use both of mercurial lotions for irrigation and of mercurial gauze for packing, substituting carbolic lotion (1/90) and iodoform gauze moistened with carbolic for these purposes. Carbolic acid causes much less irritation and inflammatory reaction than perchloride of mercury.

Case III.—A young lady, aged thirteen years, sent to me for an opinion three months after the mastoid operation had been done by

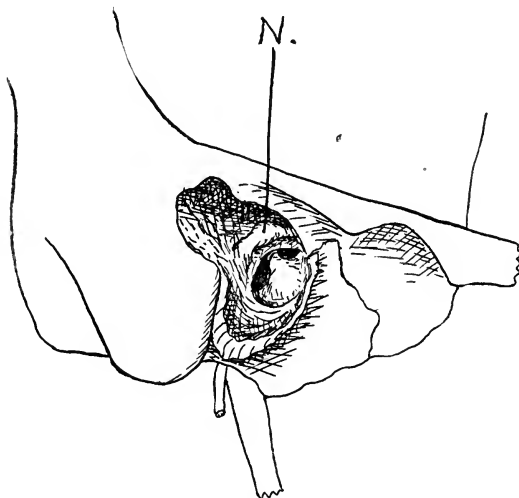


FIG. 2.

A temporal bone in which the antrum has been opened and thrown into the tympanum. The guide-line (N) marks the aqueduct of Fallopian. The posterior wall of the meatus has been cut away lower down than is done in operating.

another surgeon. There was complete paralysis and marked wasting of all the facial muscles of the left side and the scar of the operation-wound which had completely closed. The paralysis was observed for the first time soon after the operation. The muscles gave no reaction to the faradic current but still responded a little to a strong galvanic current. The latter fact was the basis of the opinion I arrived at and expressed, viz., that the conductive function of the nerve was not completely abolished and that partial or complete recovery would probably ensue. Within a week after this visit a little power returned in the orbicularis oculi and within two months

the function of the nerve was so far re-established that the left eyelids could be completely closed, and even in smiling the alteration in the countenance was but slight. *Comment.*—At first sight the complete facial paralysis present in this case, as long as three months after operation, suggested a grave and almost hopeless prognosis. Knowing, however, that when a nerve-trunk is damaged beyond repair, the muscles it supplies become as a rule completely degenerated and cease to give any response to either electric current at the end of five weeks. In this case, at the end of thirteen weeks, there was still some reaction to the galvanic current, and hence I was able to give a hopeful prognosis.

It is scarcely needful to enter at any length into the teachings of these and similar cases. Where mastoid disease is diagnosed, whether this be by pain, tenderness and swelling, or by the formation of a mastoid abscess, or by the presence of an intractable discharge not otherwise accounted for, it should be actively treated. In most cases the antrum will require opening. Whether this is done by means of the gouge or by the dental bur it should only be done after careful study of the anatomy of the part and repeated practice on the cadaver. Two diagrams borrowed from the author's work on "Surgical Pathology"* will serve to show that the danger, as far as the facial nerve is concerned, lies in working too low. See figs. 1 and 2.

28 Queen Anne Street, W.

*Longmans & Co., 1897.

Diagnosis of Perforations of the Tympanum.

After referring to the various methods in vogue, Dr. E. Bloch, of Fribourg, recommends the use of Seigel's speculum (*Zeits. f. Ohren., Bd. XXX, Heft 2.*) On producing a rarefaction of air in the external auditory canal, the pressure in the tympanic cavity and in the canal is the same, and the membrane remains immobile when a perforation exists.

(The diagnostic value of this procedure is limited by the fact that in very small perforations the mobility differs very little from that of the unperforated membrane. Even in perforations of considerable size, a rapid pressure will produce a certain amount of movement in the tympanic membrane.)

SCHEPPEGRELL.

NEW INSTRUMENTS.

A NEW ELECTRIC HEAD LAMP FOR USE WITH THE EDISON CURRENT.

BY E. B. GLEASON, M.D., PHILADELPHIA.

The forehead electric lamp, illustrated herewith, has been used during the past winter by the writer and Prof. A. H. Cleveland, in the brilliantly-lighted amphitheatre of the Medico-Chirurgical College, with entire satisfaction, for all operations upon the nose, throat and ear. Even during the brightest day it illuminated the deeper recesses of these cavities with a bright, white light amply sufficient for all operative purposes.

The lamp was the outgrowth of a smaller and less satisfactory apparatus, and most of the work of construction was done by Mr. L. P. Clark, of Taylor & Clark, manufacturers of electrical supplies, Philadelphia.

For ordinary office examinations of the nose, throat and ear, probably no illumination at present available is superior to the light of an argand gas burner reflected into these organs by means of an ordinary concave mirror worn upon the forehead or attached to a light condenser. This light does not flicker, but is steady and free from the shadows that mar the efficiency of light reflected from an incandescent electric light; nor does it have the habit of suddenly going out at an inopportune moment, as the result of a broken mantle, as is the case with the Welsbach light. The surgeon soon becomes accustomed to its yellow hue, which, of course, changes somewhat the natural color of the parts as they would appear by daylight or any other perfectly white light, and becomes able to distinguish delicate differences in the color and shading of normal and pathological structures. The illumination thus obtained is amply sufficient for purposes of treatment, and all operations upon the nose or throat or ear; for, as a matter of fact, the light from an argand burner, or from a white cloud shining through an adjacent window, condensed by the concave mirror and entirely free from shadows, is superior to that of an incandescent electric light worn upon the forehead. For these reasons an argand gas burner or daylight, when available, will probably continue to be the favorite source of illumination for operations upon the nose and ear.

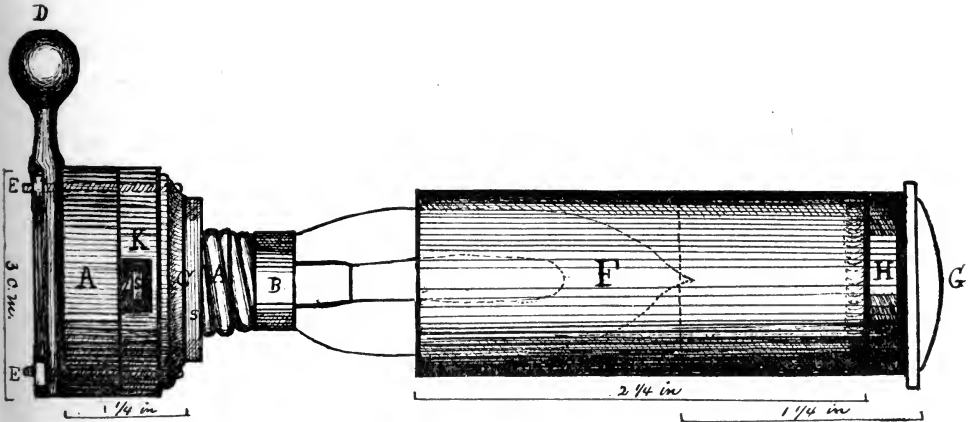
Gas light cannot well be used where ether is employed as an anæsthetic, and light reflected from an incandescent electric light, held in the hands of an assistant, requires his entire attention to hold the light in the proper position and his presence interferes somewhat with the manipulations of the operator and the assistant who has charge of the instruments. In a large amphitheatre, brightly lighted by skylights and distant windows, the light from the ordinary sixteen-candle incandescent light is hardly sufficient, and a thirty-two-candle or even a fifty-two-candle light will answer a better purpose when operating upon the deeper portions of the nose or ear. Even with the larger electric light, however, the glowing filament is focussed upon the parts where it appears as bright lines, too bright in fact, surrounded by shadows that render this method of illumination unsatisfactory.

The ordinary forehead electric lamps, for sale in instrument shops, are inadequate, because the lamp employed is usually of the ordinary *miniature* size and yields only two to four candle power, which is sufficient to illuminate only unsatisfactorily the deeper portions of the nose or the middle ear, when operating in a well-lighted amphitheatre. The very short filament of such lamps is furthermore focussed by the lens of the apparatus upon the field of operation, with all the disadvantages of a line of bright illumination surrounded by deep shadow.

The Nevius forehead lamp, which consists of a short sixteen-candle electric light, mounted in a parabolic reflector, yields approximately *parallel* rays, and hence does not focus the wire of the lamp upon the field of operation, so that the illumination is free from confusing shadows. It is more than bright enough for all operative purposes, and as modified by Bishop, by the introduction of a ball and socket joint between the head band and the lamp, answers an admirable purpose for laryngoscopy, and operations upon the anterior portions of the nose or the more external portions of the ear, or even the middle ear when it is exposed during mastoid operations. When, however, any attempt is made to see the deeper portions of the nose or the drum-head through a narrow auditory canal, by means of the Nevius lamp, the operator finds it absolutely impossible to do so; for the same reason that it is difficult or impossible to see the fundus of the eye without looking through the perforations in the center of an ophthalmoscope mirror. The parabolic reflector is necessarily so large in the Nevius lamp that the illumination, while more than amply sufficient, does not correspond nearly enough with the axis of vision to enable the observer, by means of this apparatus, at the same

time to illuminate and see the fundus of a deep, narrow cavity like the nose or the auditory canal. If two electric lights were employed instead of one, and the parabolic reflector were perforated in the manner of the ordinary forehead concave mirror, so that the observer could look through the perforation, it is probable that this difficulty would be overcome and that the Nevius lamp, so modified, would be more suitable for the purposes of the aurist and rhinologist.

The writer has found the lamp shown in the figure to answer admirably for operations upon the nose and ear, performed in a well-lighted amphitheatre. As the electric light employed is of the candelabrum variety, with a long incandescent film, no part of which is accurately focussed upon the field of operation by the condensing lens of the lamp, there are no very deep shadows, but all parts of the field of operation are fairly evenly illuminated. If the filament



A, porcelain, candelabrum, electric light socket, to the top of which is fitted the brass collar C, provided with a screw thread S S, on to which the cylinder F may be screwed. The brass collar C is insulated from contact with the brass electrical connections of the lamp socket A and also the binding screws, one of which is shown at S, by means of the fiber washer K. The brass collar C fits snugly around the porcelain of the lamp socket A and is bound firmly in position by means of the screws and nuts E E, which also serve for the attachment of the bar D, terminating in a ball of suitable size to articulate with the ball and socket joint of a head-band. The nickel-plated cylinder F is provided with a draw tube H, which carries a lens G. Either divergent or convergent rays of light may be secured from the candelabrum electric light B, by sliding in or out within the cylinder F the draw tube H. Both the lamp socket A and the candelabrum lamp B have not been modified in any manner, but are of the ordinary variety kept in the stock of electricians' shops and, if broken, can be very readily replaced. The wires for conveying the current are attached in the usual manner by means of binding screws, one of which is shown at S.

of the electric light burns out during an operation, the light can quickly be replaced by a new one. The apparatus can be attached to any head band to which the operator is accustomed, in place of his concave mirror; and head band, cords and lamp occupy but little space and can readily be carried in the pocket. The metal parts of the lamp are easily made. The Edison socket and lamp are for sale in the shops of electricians everywhere. The diameter of the lamp

socket is only three centimeters, which permits the apparatus to be adjusted sufficiently near the axis of vision to enable the observer to illuminate and see the visible deeper parts of the nose and ear with ease and certainty, and the light from the candebrum light, about eight candles, is more than amply sufficient for all operations upon these structures.

A ring of fire-clay or other material may be sterilized with the instruments before any operation and slipped over the lamp so that it will not be necessary to touch the lamp itself should it be desired to alter the direction of the illumination during an operation.

The apparatus is designed to be used with the electric current ordinarily employed for purposes of electric lighting, 110 volts. Candebrum lamps only require about one-third of this voltage and some resistance must be employed in order to reduce the voltage. This resistance is conveniently furnished by an Edison controller, with a fifty-two-candle lamp in the circuit, but two candebrum lamps placed in series with the apparatus will answer the same purpose. The apparatus can also be used with a storage battery, if a lamp of sufficiently low voltage (two volts for each cell of the battery) be obtained. Lamps of six volts, suitable for use with a three-cell battery, are sometimes found in the stock of electrical stores, or readily can be made to order. The incandescent filament of such a lamp is, however, very short indeed, and hence will be focussed upon the field of operation.

The distal part of the lamp becomes very hot toward the close of operations lasting an hour or more, and the operator should avoid touching that portion of the lamp. If, however, the current is turned off for a few moments, the apparatus rapidly cools.

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EDITORIAL.

THE NASAL ORIGIN OF LEPROSY.

Whether leprosy has been spreading more extensively in recent years, or whether greater attention has been called to this subject by those interested in this branch of medicine, or whether the necessity for isolation of these cases is now better understood, it is difficult to state. Undoubtedly, however, this subject has attracted much greater attention in recent years. As an exponent of this fact, a convention was recently called for the purpose of devising ways and means to counteract the spread of this frightful malady, an international congress having met at Berlin.

The bacillus lepræ, which is supposed to have the same etiologic relation to leprosy as Koch's bacillus has to tuberculosis, was admitted to be the primary cause, and the fact substantiated that leprosy is a contagious disease. Heredity as an etiologic factor has no longer many adherents, and contagion is supposed to be the origin in those cases in which heredity was thought to be the cause.

It has been repeatedly demonstrated that the descendants of leprous parents are perfectly healthy and remain so if separated from the members of their family who already have the disease. As leprosy has thus far been considered incurable, the most important method of counteracting its spread is by isolation.

Dr. Sticker, who, as a member of the German committee, recently made the most comprehensive investigation of this subject in India, presented a view of this subject which will be of special interest to rhinologists. As a result of these investigations, he states that the part of the body from which leprous persons, during their entire sickness, send forth the greatest number of bacilli, and do so with the greatest regularity and in the greatest abundance, is the nose.

It was also found that the part of the body which is most ready to receive these bacilli, and where the contagion in nearly all instances takes place, is again the nasal cavities. As tuberculosis usually develops in the apices of the lungs, so leprosy finds its origin in the nostrils.

In view of these facts, it would be well to call attention to the peculiar lesions in the nostrils which are found in leprosy. Thus far there have been but few who have investigated this subject, partly because the field is limited and partly because attention has only recently been called to the importance of these symptoms. A careful investigation of 25 cases of leprosy has been made by Drs. Jeanselme and Laurens (*Bulletin Med.* July 25, 1897). Of these, 15 presented lesions in the nose and throat, these statistics being limited to the tegumentary or mixed form of this disease, and not to the nervous form. These investigators have shown that the first manifestation of leprosy is often an ordinary chronic coryza, nasal obstruction, crust formation, epistaxis, etc., all of which are supposed to be due to the bacillus of Hansen penetrating by an erosive process into the Schneiderian membrane.

One of the most important signs of nasal leprosy is epistaxis. The nasal lesions in this affection change the configuration of the nose. If the cartilage of the septum yields, the nose may become shortened or may take the saddle-backed form. A rhinoscopic examination shows the Schneiderian membrane turgescient, eroded and tume-

fied in the neighborhood of the inferior portion of the septum. The least touch at this point may cause a hemorrhage.

At a later stage a perforation develops in the regular contour of the inferior portion of the septum. When the perforation is recent, the free border is thickened, hard and bleeds easily. When it is old, the inner edge of the opening is thin, and tubercles are often found in the mucous membrane.

The sense of smell is not noticeably affected, but anæsthesia is noted under two different circumstances; it is either produced by the presence of the tubercles or may be entirely independent of any eruptive manifestation. Frequently the mucous membrane of the septum is insensible to touch over its whole surface. The bacillus of Hansen is found in the muco-pus of leprous rhinitis and in the blood when there is epistaxis.

The nasal mucus of lepers is extremely virulent, and, as already stated, is now supposed to be the origin of most cases of this disease. The lesions of the velum palati, of the throat and of the larynx resemble secondary or tertiary manifestations of syphilis. The evidence of anæsthesia, however, establishes a diagnosis of leprosy.

A thorough examination of the nasal chambers is thus shown to be more and more important. Rhinology, which in former years was treated with the most contemptuous disregard in medical publications and but rarely referred to in the text-books, is thus finding its proper position as an important branch of medicine, and its study now ranks with that of the stomach, kidneys, liver, heart and other organs as it deserves.

SCHEPPEGRELL.

AN INNOVATION.

Arrangements are now being completed for the addition of a complete Abstract Department and Bibliography in each issue of THE LARYNGOSCOPE, to give our readers a complete resume of all the current literature (American and Foreign) published, pertaining to Otology and Laryngology.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, held on February 23, 1898, at 8:15 o'clock.

Jonathan Wright, M.D., Chairman;

Thos. J. Harris, M.D., Secretary.

Dr. J. W. Gleitsmann exhibited a patient

Aneurism of the Aorta, Perforating the Chest Wall and left Recurrent Paralysis.

The history of the case was a very short one. Dr. Gleitsmann had hunted for more notes on the case at the German Hospital, but he could find nothing to add. The case only required a few remarks.

Five years ago the patient first noticed some hoarseness and rheumatic pains in his throat. There was also some dyspnea and pain on swallowing. For four months he was in the German Hospital, where improvement occurred. He then went to Mobile. In November, 1896, he again entered the German Hospital and remained there until June, 1897. He then had malaria. The swelling of the chest wall was first noticed during his stay in the German Hospital, in 1894. The tumor was of a considerable size. As you will notice upon examination, the sternum is absorbed and the tumor seems to me to be a little increased in size of late. Over the tumor there is discoloration. You will notice, too, that the tumor shows more prominently on the one side. Pulsation is distinctly felt.

Upon examining the throat a very interesting thing was noticed; the inferior laryngeal nerve was compressed, giving rise to paralysis. He cautioned the members in examining the patient to use extreme care. The eye and the inspection of the throat would reveal all of interest in the case.

Dr. Sherwell said he came to see the case of Dr. Gleitsmann's, thinking he might learn something from it.

His own last case was marked by extreme size, some absorption of the sternum had occurred, the aortic arch, the innominate artery, both subclavians, etc., largely dilated, yet the nerves seemed unaffected. What the doctor wanted especially to know was whether in cases of this magnitude the members had seen such without lesion

of the recurrent nerve, either on one or the other side, or of both sides. He asked this question because in his own case, this symptom was not present, which he thought extraordinary.

Dr. Sherwell stated that during one eighteen months of his practice he had eight cases of aneurism of the aorta; in four of these a post-mortem confirmed the diagnosis; the rest, by the peculiarities of the lethal termination, extreme suddenness of death, etc., etc., apparently certainly confirmed the diagnosis. In all these there had been paralysis of the vocal cords in some degree.

In the case which he at first had quoted he had never seen anything approaching its magnitude without affection of voice, or it took up the whole chest without any evidence of strain on the recurrent laryngeal nerve. It had in this regard been quite unusual, and he asked the experience of the members with these cases.

Dr. Gleitsmann said that in thirty years' practice he had not seen such a pronounced case of aneurism of the aorta, where left recurrent nerve was involved with the subsequent paralysis. Of course, there were cases of aneurism of the aorta where the left recurrent nerve was not involved and no laryngeal lesion could be noticed. The left nerve was more frequently involved than the right.

Dr. Berens said he had a case of this kind while he was an interne in the Philadelphia Hospital, ten years ago. The patient was one with a short neck and there was no paralysis. The patient died of perforation and bled to death. There was no paralysis, although the tumor seemed to be higher than in Dr. Gleitsmann's patient.

Dr. Newcomb said he had seen three cases of aneurism of the arch which had suddenly died and diagnosis confirmed. In these cases there was no involvement of the laryngeal nerve. In one of them there was slight laryngeal tenesmus same as found in laryngeal hemorrhoids. There was a dilatation of the veins which was supposed to account for all the signs complained of; later it was shown that an aneurism of the aorta was present.

Extensive Mycosis of the Oro-Pharynx, Including the Oral and Lingual Tonsil, Presentation of Patient and Exhibition of Microscopic Sections.

Dr. T. P. Berens presented this case.

J. B., eighteen, white, male, came to the Manhattan Eye, Ear and Throat Hospital, June, 1897. He complained of difficulty in swallowing solids, "because something had grown in his throat." This condition was of one week's duration. There was slight soreness in the throat. He had been a sufferer with dyspepsia for more than a year, other than this he had not been ill since he had had whooping

cough twelve years before. His family history is good; only one sister of his family of five having throat trouble, due to atrophic rhinitis of an advanced type. Examination of the patient reveals both oral tonsils to be rather undersized. On the surfaces of these tonsils were many excrescences varying in size from that of a millet seed to that of a large barley grain. These excrescences varied in color from a creamy yellow to a dark green, almost black. On removing the darker ones it was noticed that the discoloration was on the portion more exposed. The portion coming from the crypt being almost white. The posterior pillars of the fauces were dotted with minute white and yellowish spots, while the posterior pharyngeal wall was almost entirely covered with white spots, in some places coalescing and hiding the mucous membrane for areas for perhaps a quarter of an inch in diameter. This condition extended deeply into the inferior pharynx below and above up into the pharyngeal vault. In this latter position several large masses were noted and the adenoid tissue was removed with adenoid forceps. The lingual tonsil was double; it resembled in size and shape two almond kernels laid side by side. They were full of masses of the same general character as those in the oral tonsils. The masses here were so numerous that they interfered with the epiglottis. The saliva was acid in reaction.

The diagnosis was clearly that of mycosis, but owing to the suggestion of membrane formation, due to the coalescing of the secretion in the pharynx, there was some question of diphtheria. This was not proved to be the case by microscopical examination, but the mycelial threads pervaded every portion.

Our Chairman, Dr. Wright, has kindly prepared sections from the lingual tonsil showing the "threads," and also the spores.

In closing, a word about treatment. The only drug in this case that proved of any value was bicarbonate of soda as a gargle in hot water. Expression by forceps was used to clear the crypts.

Remarks on Pharyngeal Mycosis.

By Dr. Jonathan Wright. (See THE LARYNGOSCOPE, April, 1898.)

Dr. J. E. Newcomb said that the first paper he had ever prepared on any topic on rhinology and laryngology was in regard to mycosis, and naturally he has been greatly interested in the subject ever since. But in looking over the literature of the last few years, one had to admit that our increase in knowledge had been very slight. For himself, he had had the best results with treatment with the galvanocautery and the use of alkaline mouth washes. He had had no

special results with anti-rheumatic treatment, nor had he been able to find in his own cases such a frequent evidence of rheumatic tendencies, as has been mentioned by others. It was noteworthy that the majority of cases occurred in women. Personally, he had never met with a case in a male. Of the dozen cases mentioned by Dr. Ingals (Transactions American Laryngological Association, 1894) about one-half were men and one-half were women. Of the cases which had come under Dr. Newcomb's notice, one was cured simply by having her teeth put in order, and two others, by giving up the use of sweets and by proper regulation of the diet.

Much had been said as to the possible effects of tobacco in curing these cases. The use of nicotine had been shown to be attended with alarming effects. In one of his cases cigarettes had been used by the patient on her own responsibility. She was a young Swedish woman of magnificent physique and free from any functional or organic trouble; was in short the picture of health, except for the annoyance in the pharynx. The usual plan of treatment gave very unsatisfactory relief, which, however, did ensue after the patient had smoked cigarettes for some days. Of course, this fact might have been purely accidental, as mycosis comes and goes without any fixed rule as to duration.

As one reads the discrepant remarks as to therapeutic results, one is struck with the fact that while some recommend highly, the various mouth antiseptics and anti-parasitics, others find this class of remedies to be utterly useless. When we considered the physical conditions under which these mycotic growths appear in the mouth, it was hard to see how any surface application, no matter how carefully made could have the least effect in getting at the roots of the deposits. This discrepancy naturally suggested the question as to whether in all these cases of mycotic deposits we were dealing with one lesion or more than one?

A most suggestive monograph on this topic was issued in 1896 by Dr. A. Brown Kelly, of Glasgow. Dr. Kelly believes that there are two distinct diseases in one of which the presence of the *leptothrix buccalis* is merely accidental. It appears because the conditions of the affection furnish a favorable environment for it. These conditions are a cornification of the epithelium lining the crypts of the tonsil, while the epithelium on the surface remain unchanged. Hence it is proposed to call this condition a "keratosis lacunaris." In this affection, the *leptothrix* is not the cause, but merely an accidental accompaniment.

Heryng has shown that there are two forms of excrescences. One

is superficial, hemispherical, adhering to the surface of the epithelium. It is made up of cornified epithelial layers, homogeneous in the middle, ragged at the borders, and surrounded by a nucleolar mass. The other consists of conical plugs which have actually penetrated the epithelium of the mucosa and passed pretty deeply into the substance of the tonsil. They are yellow and homogeneous, being made of coalesced epithelial scales and *debris*. The changes in the tonsils in this second variety are limited to a thickening of the epithelial layer of the mucosa and to an enlargement of the follicles.

In these tuft-like excrescences, the leptothrix finds a medium favorable for its development. But it may be absent entirely and yet the patient will present these same horny, tenacious deposits in and on the tonsil. According to the view just enunciated, the disease is therefore a cornification of the cryptic epithelium—a true keratosis, analogous to keratoses, occurring in the skin and other regions.

There is a true mycosis in which the leptothrix is undoubtedly the exciting cause. This differs from keratosis in the following particulars:

1. Keratosis appears in the prime of life; mycosis may affect any age.
2. The cause of keratosis is unknown; mycosis is generally caused by some local abnormality of buccal secretion, or of the digestive tract, possibly by some diathesis, as rheumatism.
3. In keratosis the symptoms are slight or absent; in mycosis they are pronounced.
4. In keratosis the surrounding mucosa is normal, while in mycosis it is inflamed.
5. In keratosis the excrescences are tough, firmly adherent and assume characteristic shapes; in mycosis they are soft and easily removed.
6. Keratosis is confined to some part of Waldeyer's ring, while mycosis may appear at any point between the mouth and the stomach.
7. Mycosis shows a resemblance to other mycoses, as thrush and sarcinica, while keratosis does not (if we leave the leptothrix out of account).
8. Local applications will cure mycosis, while they have no effect on keratosis.

Dr. Newcomb concluded his remarks by stating that he was not quite prepared to accept the full doctrine as laid down in Dr. Kelly's most excellent monograph, but the latter's views were most suggestive and deserved a most careful consideration. Doubtless a greater familiarity with the life history of the leptothrix buccalis would throw

additional light on the question. Jacobson had obtained pure cultures by growing the organism on sterilized slices of cooked potato, while Decker and Seifert succeeded in transferring the disease to healthy throats by transplanting some of the deposit to the tonsillar crypts of the person experimented upon.

Dr. Van der Poel said he had not seen a case of mycosis of the throat in five years, and he believed there were comparatively few cases of mycosis of the throat. During a dispensary practice extending over many years time, the entire number of cases that he had seen numbered but six. All of these occurred in females; he had never seen a case occurring in a male.

The persistency with which this fungus grows in the throat had been brought out by the speaker, and, to him, it seemed unnecessary to dwell further on it.

In regard to the treatment, he could agree with the statements of the gentleman who just spoke, that little could be accomplished by lotions or mouth-washes or antiseptics, and that what is accomplished is done by means of the destruction of tissues by means of the galvano-cautery. In his hands, results had only been accomplished by the persistent use of the galvano-cautery.

Dr. Lincoln said he wished to make a few remarks in regard to the treatment; this was prompted by the discouraging remarks already made on this subject. The past winter he had three cases under his care; all of them were extreme cases. One of them had existed nearly one year; how long the others had lasted, he did not know. Two were men and one was a woman. The only treatment he had administered in one was the galvano-cautery; in the others he made use of pyocetanin blue, which must be applied thoroughly and frequently, continuing its use daily, even six weeks or two months.

In regard to the climate, these people were healthy in a general way, and one of the patients had been nearly one year in the Adirondacks on account of his wife's health, but this did not seem to have any special benefit.

Dr. Miles said that to him these were interesting cases. He had met with three of them last winter, all occurring in females. Out of about one dozen typical cases there had been but two that had occurred in the male. In his operations he used McKenzie's forceps and followed this up with the electric cautery, and all his patients did well. The three cases referred to above were aged respectively eighteen, twenty-one and sixty, the latter being a woman who had perfect health apparently.

Dr. Lincoln wished to add more to his remarks in regard to the

use of pyoctanin blue. The remedy must be applied thoroughly, and should be rubbed into the parts and should be made to penetrate down through the length of the canals. The superficial layers were of little consequence, but it should be made to penetrate into the sulci of the canals. This was the secret of success.

Dr. Berens closed the discussion by stating that had the galvanocautery been used the patient would have had but little mucous membrane left in the pharyngeal wall.

Dr. Robert C. Myles presented for examination an interesting case of

Primary Tuberculosis of the Respiratory Tract.

The patient, Mr. A. B. H., aged thirty-seven, applied to the doctor on January 15, 1898. The previous history of the case was as follows: In October, 1896, a general surgeon removed the right lower rib and it was found to be tubercular. The patient has been in fairly good health since this was done. He has had periodical attacks of sore throat since last winter; about three months ago he began to have definite trouble about the pharyngeal wall. Upon examination an ulcer was found on the posterior pharyngeal wall, commencing on a level with uvula and extending downward to a point opposite the posterior commissure of the larynx. The ulcer was about one and three-fourths inches in length and about three-fourths of an inch in width. The doctor scraped the ulcer on February 1, using a curette and excisor forceps, and Dr. Vissman reported that microscopical examination showed that they contained the tubercle bacilli. After which he scraped and excised the margins of the upper third of the ulcer and applied pure lactic acid. Dr. Katzenbach has carefully examined his lungs and he found no evidence of disease. The speaker intended to continue the excision of the tubercular tissue and the application of the lactic acid, and if nutrition is sufficient he hoped to be able to heal this extensive tubercular ulcer. The patient was presented for inspection for the purpose of gaining an opinion as to the best methods of procedure.

Dr. Myles also presented the case of Dr. M.: S. K., a retired physician, aged seventy-three, who applied to him on January 7, 1898, and stated that about four months ago he began to be troubled with hoarseness and slight soreness in swallowing, with constant disposition and desire to clear the throat. Several members of his family—children and grandchildren—had died within the last several years with tubercular troubles, some of which were apparently from contagion. Physical examination showed an erosion or ulcerated condition, with infiltration on the right ventricular band, and a small

infiltration on the left, with characteristic œdematous tubercular looking arytenoids. Dr. Vissman examined his sputa carefully and reported that he could find no bacilli. The speaker had been treating him two or three times a week since January 7, with full strength applications of lactic acid. The ulcerated region is undergoing a gradual process of healing. The arytenoids are not half the original size, and the general symptoms of hoarseness and difficulty in swallowing have been markedly relieved. He gives no history of syphilis, and the evidence does not enable us to make a positive diagnosis. His physical condition does not show any deterioration. There are some of the characteristic features of syphilis, malignancy and tuberculosis. There are no rales in the apex.

Dr. Van der Poel asked Dr. Myles if tubercle bacilli had been found in the case of the young man who has the ulcer of the pharynx. Also, was there any temperature?

Dr. Myles answered that bacilli had been found.

The Curette and Forceps in the Operation of Adenoids.

Dr. W. F. Chappell read a paper on this subject. He believes that one of the causes of incomplete removal of adenoid tissue or other damage in the naso-pharynx is that the instrument, be it forceps or curette, is too large in size. In an examination of 2,000 children the author found that the greatest number of these growth occurred in children under six years of age. In his judgment the curette is the instrument to be employed in the removal of these growths. We should use instruments based on the actual measurements of the naso-pharynx at various ages. He protests against the great amount of force employed by some operators when the curette is applied. The reader showed new curettes suggested by himself, of two sizes. One for infants up to the fourth year, and the other for four years to fourteen years, based on actual measurements. The cutting edge of the blade may be straight or coarse serrated, and not very sharp. With the serrated blade the pieces of growths are caught.

The points of favor claimed for the curette are: First, It shortens the time required for the operation. Anæsthesia may be frequently omitted. It minimizes the danger of injury to the Eustachian tube, septum or soft palate, and of any unnecessary sacrifice of mucous membrane.

A Case of Fatal Hemorrhage following Adenectomy in a Hæmophilic Child.

Dr. C. H. Knight reported for Dr. J. A. Kenefic the case of a boy, four years of age, who was brought to the Manhattan Eye and Ear Hospital, on January 20th, inst., suffering from the usual ac-

companiments of retro-nasal obstruction. Upon examination a large mass of lymphoid tissue was found occluding the naso-pharynx and its removal was advised. On January 25th the child was etherized and the mass quickly removed with Brandagee forceps, Gottstein curette and the fingernail, in the order named. Hemorrhage, no more than ordinarily occurs after this operation, ceased promptly. Two hours after the operation the nurse reported a hemorrhage from mouth and nose, which was finally controlled by packing the naso-pharynx with cotton and the anterior nares with iodoform gauze. Two hours later the packing suddenly became blood soaked and profuse hemorrhage was in progress.

The naso-pharynx was repacked with tampons soaked in tannogallic acid solution; the anterior nares were repacked as before. The patient was now in a condition of profound anæmia. Whisky and strychnine and normal salt solution were given subcutaneously, but enemata of this solution were repeatedly rejected. Supportive measures were continued throughout the 26th, and on the 27th, at 1 p. m., a large clot of blood was vomited, a portion of which was evidently a cast of the small intestine. At 3 p. m. all packings were removed and the nasal chambers and the naso-pharynx were washed out. No hemorrhage followed. At 9:30 p. m. oozing was reported which was checked by fresh packings. At 6 p. m., January 27th, fresh oozing was again observed, which soaked through all subsequent packings until 11:30, when the child died. No post-mortem examination was allowed.

Dr. Newcomb opened the discussion. He said that he was unfortunate in losing a case, the history of which was recorded in the *American Journal of the Medical Sciences*, 1893. He had had three cases of hemorrhages. In one of the cases hemorrhage followed the removal of adenoids, in a young woman, eighteen or nineteen years of age. He was sent for, but when he had arrived at the house of the patient the hemorrhage had ceased and but little blood had been lost. The last of these cases occurred quite recently. The patient was a girl of thirteen years, from whom the faucial tonsils had been removed without bleeding. Later, some adenoids were removed under cocaine anæsthesia. Forty-eight hours afterwards the mother came to the hospital and said there had been severe hemorrhage and the child was practically exsanguinated. After the operation the child was sent home, but the mother insisted upon her going to night school, contrary to advice, and while there her hemorrhage came on. He offered to go down and do what he could for the child, but his offer was refused. He presumed that the child recovered; if the child had died he probably would have heard of it.

The case which was reported in the *American Journal of Medical Sciences* occurred in a boy, aged four, who gave no history of hæmophilia. In this case the hemorrhage came on four hours after operation. The mother had been advised to send for the nearest one of the clinical assistants in case anything went wrong. The speaker happened to be the nearest one in this instance, but he was not sent for until the next morning, when he found the child exsanguinated, and the little patient died in about five minutes after his arrival.

At that time he found recorded some sixteen cases, one or two of which had proven fatal. Dr. Hooper had reported a fatal case occurring from a digital examination. There had also been reported fatal cases occurring in the work of Dr. Delavan, and others. Of eleven cases, four of them occurred during the first decade, five during the second. The youngest was four years of age; the oldest, twenty-eight. In three cases chloroform was administered; in three, cocaine. The instruments used included the forceps, fingers, and curettes. The time of occurrence was from immediately up to twenty hours. In a paper by Dr. Delavan there is recorded a fatal case in a child of four years, and three fatal cases occurring in the practices of others.

The speaker then referred to a case of a boy, two and a half years old, who, under ether, had had adenoids removed with finger and forceps. Hemorrhage occurred eight hours afterwards and death in twenty-four hours.

The speaker also referred to the practice followed at the Manhattan Eye and Ear Hospital, as one giving excellent results; there they demanded that patients to be operated upon should spend the previous night in the institution, so that they can be carefully watched and prepared for operation.

Dr. Delavan said that the case, to which reference had been made, had already been fully reported. It occurred in a child, two and a half years of age, and was secondary, the hemorrhage having come twenty-four hours after operating. The question asked before the operation, as to the possible existence of hemophilia, had been answered in the negative by both parents. Upon careful questioning, however, without much difficulty there was established a marked tendency, on the mother's side, to the bleeding diathesis. The case in all respects was typically one of hemorrhagic diathesis, and typically answered the accepted description of the disease. This case and one other, in which it had been necessary to tampon the nasopharyngeal space after the removal of a small mass of adenoid tissue

which had been left at an operation done several years before in a young girl of thirteen, were the only instances of severe or serious bleeding occurring after the removal of adenoids he had known after many years of active work. Patients usually bleed but little.

The chairman, Dr. Wright, mentioned the cases of two young women, seventeen or eighteen years of age, in whom post-nasal plugs were tried where the hemorrhage was very profuse. He introduced pledgets of cotton, and at the end of thirty-six hours the question of their removal came up; he feared that bleeding might be set up, so he kept putting vaseline into the nose, which ran back into the pharynx as it melted, apparently loosened the plugs, and at the end of an hour or two, gagging resulted and the plugs came away of themselves.

Dr. French said that fortunately he had never had a case of secondary hemorrhage, after the removal of lymphoid growths, to contend with; but, as they often learned more from their misfortunes than from their fortunes, he felt sure that the report made by Dr. Knight would impress a healthy lesson upon them all.

Because of the danger of hemorrhage in these cases, the patients should be kept under close observation for at least twelve hours after the operation. They should be turned upon their side from time to time, so that if hemorrhage occurs it will be detected by the escape of blood from the lips or nostrils.

He was favorably impressed with the views of Dr. Newcomb in regard to bringing poor patients into the hospitals or infirmaries so that they could be properly watched. In this way, he said, they might occasionally save a life.

The speaker said that as the chairman was willing that the discussion should expand beyond the limits of the subjects presented in the papers of the evening, he would venture to bring before the section two questions for discussion. The first was in regard to the propriety of continuing the use of the term "adenoid" to designate these growths, when they are clearly of a lymphoid character.

Adenoid elements enter into the structure of the growths to some extent, but as lymph tissue constitutes the largest part of the mass, lymphoid would seem to be a better term to use in speaking of these masses of tissue. Adenoid and lymphoid are terms often used synonymously by rhinologists, and, indeed, by histologists, especially the older writers, who believed that lymph tissue was glandular in character. These growths are almost entirely made up of lymph tissue, and should, therefore, be described as lymphoid, and not adenoid, as is now the almost universal custom.

The other point which he brought up for discussion was the degree of completeness with which these growths should be removed. It is, he thought, the common belief that it is not necessary to remove the entire mass, but that after enough had been removed to permit free nasal respiration, the remnant could, with safety, be left to atrophy. In those cases in which a thick base is left, he believes that not only do they not atrophy, but that frequently fresh attacks of acute inflammation of the tissue ultimately result in an increase in the size of the growth. The only cases in which he had been obliged to operate the second time had been those in which the entire mass of tissue had not been removed at the first operation. If a considerable amount of tissue is left, not only is there more likelihood of a reproduction from frequent attacks of acute inflammation, but the tissue left would maintain a catarrhal condition which might ultimately extend to other structures. It seemed to the speaker that if there was no other danger than that of extension of catarrhal inflammation to the Eustachian canals and middle ears from these growths that this would in itself be a sufficient reason for their complete removal.

He did not think that it was altogether fair to leave any of this tissue which, no doubt, is frequently the cause of deafness in early adult life. A rhinologist said to the speaker, after witnessing a complete extirpation which takes him from twenty-five to thirty-five minutes under ether, that such an operation was for the rich; that it takes too much time. Surely that is not an objection which should be considered valid, for if we have not the time to operate thoroughly on all the patients who apply for relief, we should seek the assistance of those who have the time as well as skill.

When a patient seeks our advice and treatment for relief of deafness, one of the first things we do is to look for lymphoid tissue in the pharyngeal vault, and if it exists advise its removal. If we consider this tissue, of so much importance as a causative element in deafness, why should we not, when we have the opportunity, when the patient is under ether, remove the growth completely? We should never be content with less than a complete extirpation of these growths. Short of that we cannot do full justice to our patients or reflect the highest credit upon ourselves.

Dr. Van der Poel said that his experience with severe hemorrhage following adenoid operations embraced two cases. One of them occurred in the person of a girl, aged eight, who presented herself for treatment, at the Manhattan Eye and Ear Hospital, some six or eight years since. A diagnosis of adenoids was made and an appointment

for subsequent operation agreed upon. As the patient was about to leave the clinic, a small portion of the growth was removed with forceps, in order to demonstrate its character to some students. The patient was then dismissed to return for operation. The following morning, at four o'clock, the speaker was summoned to Brooklyn to attend the case, which proved to be one of alarming hemorrhage. The child was almost exsanguinated, with a small, thready pulse. The nasal chambers and naso-pharynx were plugged, but the oozing continued for two or three days. What so frequently occurs in these cases took place in this instance, *i.e.*, the more the packing was changed and other styptics or methods employed, the more the patient bled. It was finally decided to leave the child alone and not disturb the packing. The case subsequently recovered. It was ascertained afterward to be an instance of undoubted hæmophilia; there was a history of bleeding in the family, and the patient had had, one year before, an alarming hemorrhage, following the extraction of a tooth.

The second case occurred in private practice. In this case he was so fortunate as to have the aid and advise of Dr. Knight in consultation. The patient, a lad of fourteen, was operated upon in my office, without anæsthesia, because the amount of adenoid tissue was small and the boy was far from robust. The bleeding was somewhat profuse at first, but soon stopped. After three hours, the patient returned home; at the end of another hour, he was sent for and found an alarming bleeding; at that time, he used to plug with cotton from behind and employed a *urethral* sound, introducing it into the mouth in order to force the plug well up into the naso-pharynx. After several hours, Dr. Knight saw the case, the hemorrhage continuing in the mean time; plugs removed and others with styptics introduced, and the bleeding slowly stopped. The following morning there was a recurrence, and this kept up, off and on, for two days; on the second day, he employed a single long strip of iodoform gauze to plug the naso-pharynx; this was introduced through the mouth with the urethral sound, and could be packed more closely and firmly than cotton, and when moistened with cocaine to contract the tissues, could be more readily removed. This case recovered from the hemorrhage.

The lesson to be learned from these two cases is most obvious, *i.e.*, never attempt an exploratory procedure in adenoids, no matter how trivial, until one is thoroughly prepared to operate, and has made a physical examination; for in this second case the boy had recently had inflammatory rheumatism, and only four weeks be-

fore he had an attack in which there was heart involvement. There was a mitral regurgitant murmur, the result of rheumatic endocarditis.

LARYNGOLOGICAL SOCIETY OF LONDON.

Annual General Meeting, January 12, 1898.

Henry T. Butlin, Esq., F.R.C.S., President, in the chair.

St. Clair Thomson, M.D., and Herbert Tilley, M.D., Secretaries.

Edited by Dr. St. Clair Thomson.

Two Pressure Pouches of the Œsophagus.

Shown by Mr. Butlin, President. Removed from living subjects. The references are to be found in the "Medico-Chirurgical Transactions," vol. lxxvi, p. 269, 1893, and in the "British Medical Journal," 1898, vol. i, p. 8. The attention of the members of the Society is particularly directed to the return of particles of undigested food many hours or even days after they have been swallowed, as the one constant symptom in the diagnosis.

Nasal Hydrorrhœa—Analysis of Liquid.

Mr. Cresswell Baber read notes of this case, and brought forward the analysis of the liquid. Patient, a married lady æt. 42. The right side of the nose only affected. Five years before, after eight months' excessive watery discharge following influenza, she had had a polypus removed; the secretion then stopped, but returned again at Christmas, 1896, after another attack of influenza. A polypus was removed in May, 1897, and the galvanic cautery applied, but as the secretion still continued, the case was referred to me. When I first saw her, on June 16th last, there was no obstruction, very little sneezing, no pain, only profuse non-fœtid watery discharge from the right side, which continued day and night. No headaches of consequence. Examination showed that the right nasal cavity was much narrowed by deflection of the septum, and the mucous membrane was sodden and catarrhal in appearance. No polypus, but a little irregularity on the middle turbinated body. Transillumination showed both infra-orbital regions light, and nothing came out of the right antrum on hanging down the head. The fundus was normal in both eyes. No loss of sensation could be detected in the right nasal cavity. Spirit and cocaine spray was tried, but without any effect; the dripping of watery liquid continued constant, and on one occasion (July 17th) I collected 70 min. in five minutes. On this date I began the constant current, applying eight cells externally to the nose. This stopped the secretion for a few minutes. Patient was ordered

to use it for five minutes twice a day. In a week's time (July 24th) she reported that the running was rather less in the mornings, but when I saw her it still continued. A small piece of projecting mucous membrane was snared from the middle turbinated body, but only proved to be hyperplasia of normal tissue. Ordered, in addition to the constant current, a 20 per cent solution of menthol in paroleine for a nasal spray twice a day. I did not see the patient again till September 15th, when she reported that about a month previously the running began to diminish, and had got so much less that she only used two handkerchiefs daily instead of twelve. Character of the secretion as before. Treatment continued. October 5th—No watery discharge at all for the last four days. Examination shows that there is much less swelling of the mucous membrane in the nasal cavity. To use spray and galvanism once a day only for three weeks. November 3d—No discharge at all from the right side since the last visit. Omit all treatment. Letter received from patient dated January 3, 1898, reports that there has been no return of the nose trouble. About an ounce of the liquid was sent to the Clinical Research Association, and they report that its chemical composition is as follows:

	Per 100 c.c.	
Organic solids	0.160	gramme.
Containing—Mucin.....	0.060	“
Proteids	0.025	“
Undetermined constituents	0.075	“
	0.160	“
Inorganic solids	0.880	gramme.
Containing—Sodium chloride.....	0.770	“
Calcium phosphate, &c.....	0.110	“
	0.880	“

Microscopical examination showed the presence merely of a few squamous epithelium cells and a few leucocytes. They note that the greater proportion of the solid matter consists of sodium chloride, and that the proportion of this closely approximates to the “normal saline” fluid.

From the absence of head symptoms, and especially from the beneficial effect of the continuous current, I think we are justified in concluding that the liquid in this case is simply an excessive secretion from the nasal mucous membrane, and not an escape of cerebro-spinal fluid. It seems probable that many of the cases reported may be explained in a similar manner.

Dr. St. Clair Thomson said that the analysis which had been made

for Mr. Baber was unfortunately, so far as the question of cerebro-spinal fluid was concerned, most incomplete. Since he had shown his case to the Society, he had assisted at repeated analyses of cerebro-spinal fluid, and also of other fluids from the nose which were supposed to come from the subarachnoid space. In hopes that other members might come across similar cases, he would just recapitulate the chief points which were characteristic of cerebro-spinal fluid. It was perfectly colorless and limpid, feebly alkaline, varying in specific gravity from 1005 to 1010, contained no albumen, but traces of a proteid which was found to be globulin; it reduced Fehling's solution, but it did not contain sugar, for it failed to give the fermentation test with yeast. This reducing body was pyrocatechin, which had a pungent taste, and formed particular crystals. The analysis of the present case gave no information on these points.

Dr. De Havilland Hall asked Mr. Baber if he thought that the menthol spray had any real effect on the issue; his experience was that it rather increased the discharge from the nasal mucous membrane.

Mr. Baber thought it was the constant current rather than the menthol spray that had the beneficial effect in this case.

Radical Operation for Frontal Sinus Disease.

Mr. Ernest Waggett showed a patient on whom he had performed Luc's operation five weeks previously for right frontal sinus suppuration of many years' standing. The skin incision followed the line of the eyebrow, and the trephine hole was made immediately above the superciliary ridge. The sinus was completely cleared of all the mucous membrane, which was throughout polypoid and bathed with pus. Attention was drawn to the advantages of carefully suturing the periosteum over the trephine hole, and of removal of the anterior end of the middle turbinate. From the first the cavity was irrigated by passing a fine flexible tube up through the drain-tube. The latter was removed on the thirteenth day. No pus had been seen since the operation, symptoms were absent, no depression of the bone could be detected, and the skin scar was unnoticeable.

Dr. Herbert Tilley thought that the case was a good illustration of the value of the incision through the line of the eyebrow, for the resulting scar was scarcely noticeable. He mentioned this because one authority on frontal sinus disease had maintained that a median vertical incision should be made in every case, whether the symptoms were uni- or bi-lateral. Mr. Waggett's case was at least the second or third which had been before the Society, and in which the value of the supra-orbital incision was very evident.

New Instrument—Turbinotomy Cautery.

Mr. Ernest Waggett showed a galvano-cautery point, practically of the same shape as Jones' turbinotome, a hot platinum wire taking the place of the cutting edge. He has used it to remove hypertrophies of the mucous membrane of the turbinates, particularly moriform bodies. All hæmorrhage is avoided, and the shrinkage caused by cocaine rather facilitates matters than otherwise. The copper wires should be thick, so as to avoid over-heating by the current.

Trigeminal Neuralgia Relieved by Turbinectomy.

Shown by Walter G. Spencer. The patient was a carpenter, æt. 46, who had had good health, and had not suffered in any similar way before. In April, 1897, he was in bed for two days with influenza. Some few days afterwards, at 9 a.m., he was suddenly seized with severe pains in his face. The pains first occurred in the lower lip and skin over the left side of the jaw, then on the cheek over the infra-orbital foramen, over the supra-orbital nerve at the back of the eye, and at the back of the nose. He became dazed, and cannot remember his journey home from work; he is said to have staggered up the street like a drunken man. His memory is also a blank for the next fortnight. He suffered from neuralgia involving all the branches of the fifth nerve, attended by most severe paroxysms of pain, for which his doctor had to give opium and morphine in increasing doses. My colleague, Dr. Allchin, was after three weeks called to a consultation, and he concurred in the treatment by opium and morphine in large doses.

The patient got somewhat better, but on account of the pain could not sleep well at night, nor concentrate his attention on any work. He was much depressed, and opium or morphine was required when the pain became severe. This was his condition in September, after he had been ill five months, and Dr. Allchin then consulted me with a view to some surgical measure. I could not insert a speculum into the left nostril, on account of hyperæsthesia, until he had been given an injection of morphine. The interior of the left nostril showed no definite disease. On touching the interior with the end of a blunt probe, nothing occurred until I touched the anterior part of the left middle turbinal, when a severe paroxysm of pain and itching was set up of the kind from which the patient had been suffering. After the nostril had been treated with cocaine 20 per cent the middle turbinal could be touched without exciting the above symptoms.

No other lesion was found, in particular there were no signs of antral disease. Some teeth had been removed without affording any

relief. I and Dr. Allchin agreed that, assuming the neuralgia to have originated from an attack of influenza, it was not unlikely that the neuralgia would in course of time pass off. Therefore we considered that there were then scarcely sufficient indications for surgical treatment of the three roots of the fifth nerve, or of the Gasserian ganglion. I proposed to try removal of the middle turbinal for much the same reason as a specially tender tooth is extracted in the hope that it may afford relief to trigeminal neuralgia. I therefore excised the middle turbinal, taking away also the anterior end of the inferior turbinal to obtain room. I found nothing abnormal in the tissue removed, and it was not in contact with the septum. From the time of the removal the patient has never had any pain, and has not required any narcotic. He has slept well, recovered his spirits, and has been at his work for three months. He still has, however, at times, itching in the distribution of the terminal ends of the fifth nerve on the face, also at the back of the eye and nose. This annoys him and tempts him to scratch, but does not prevent his work. It is worse in the day, and is quite relieved by lying down, whereas the old pain was worse when lying down. The interior of the left nostril is now hyperæsthetic, so that the patient is easily made to sneeze, but no pain or itching is excited by touching the interior. I have told the patient that this itching will pass off in time, but I shall be glad to learn of any means of hastening its disappearance.

Mr. Cresswell Baber mentioned the use of common salt as a snuff in cases of facial neuralgia, and also suggested the use of the galvanic cautery where very sensitive spots on the nasal mucous membrane were detected.

Dr. Spicer said that the patient's nasal passages were still deficient, and were producing an "exhaustion rhinitis;" he advised the use of dilators to alleviate the chronic rhinitis, and removal of a small spur which was present.

Dr. St. Clair Thomson said that the present case confirmed what he had ventured to insist upon elsewhere,* viz., that every case of trigeminal neuralgia should be submitted to a thorough exploration of the nose and accessory cavities before operative procedures were undertaken. He happened to know of cases where extensive, dangerous, and in some instances unsatisfactory operations on the Gasserian ganglion had been carried out, and where the idea of examining the nose had never been even entertained. Amongst other instances of trigeminal neuralgia relieved by intra-nasal medication, he instanced one where a medical man had placed himself under the

* "The Year-Book of Treatment" for 1897.

care of a distinguished neurologist who had referred the case to Dr. Thomson, although the patient himself was perfectly convinced that he was suffering from "brow ague," having passed some years in the tropics, where he contracted malaria. He scouted the idea of the "brow-ague" being due to an empyema, and was only convinced when an exploratory puncture expelled a quantity of foul-smelling pus, and drainage at once cured his neuralgia. As to labelling the present a case of "cure," he thought we should be a little careful of using that term when the objective symptoms in the nose had been so slight. We all knew the beneficial effects of operation *per se*, and these were especially marked in the case of idiopathic trigeminal neuralgia. In Sir William Gowers' well-known text-book on nervous diseases there was the record of a case which an American author had traced for some dozen or so years. During this period the one individual's case had been published by something like fifteen different physicians, and each one claimed to have cured him.

Sub-pharyngeal Cartilage of the Tonsil.

Mr. Wyatt Wingrave exhibited microscopic sections of tonsils showing small islands of hyaline cartilage representing the *sub-pharyngeal cartilage*, a rudiment of the third visceral arch.

The cartilage was enclosed in the connective tissue of the bed of the tonsil, but according to MacAlister, it is generally situated beneath the mucous membrane below the tonsil, and often attached to it. He had found three examples in about 200 cases examined.

Larynx of Patient shown at Meeting held November 10, 1897.

Dr. Herbert Tilley stated that shortly after the November meeting the patient died, after suffering for three or four days from fever, intense headache, and delirium. Only the larynx and the brain were available for examination. The base of the latter was thickly covered with lymph and other evidences of meningitis.

The larynx exhibited extensive superficial ulceration of the right vocal cord and process, but the left side was healthy. A small track led through the mucous membrane of the right arytaenoid cartilage, the latter being felt bare at the end of the sinus.

When seen during life the right cord was rigidly fixed during phonation; there was an enlarged gland in the right submaxillary region, and what appeared to be a grayish mass was seen situated in the position of and hiding the right vocal cord. The almost unanimous opinion then was that it was a case of malignant disease, but the exhibitor thought that the recent history indicated tubercular laryngitis, and at his suggestion the growth was referred to the Morbid Growths Committee for more detailed examination.

Case of Malignant Disease of Larynx.

Shown by Dr. Furniss Potter. A man æt. 64, who came under observation complaining of hoarseness for nine weeks previously, but who in other respects was in good health. On examining the larynx the left side was seen to be occupied by an extensive infiltration, involving the arytaenoid region, the ventricular band, and the aryepiglottic fold; the left vocal cord was invisible, and the crico-arytaenoid joint appeared to be fixed and immoveable.

There was no history of syphilis, and no complaint of pain except a little occasionally shooting into the left ear; there was no dysphagia, but slight stridor occasionally. The patient had been put on potassium iodide in doses increasing to 20 grains three times a day, but as yet with no appreciable result.

Papillomata of Larynx.

Dr. Bronner (Bradford) showed a large number of papillomata removed from the larynx of a man æt. 48, on December 13th. On several previous occasions growths had been removed, the last time in March. Various local and internal remedies had been used.

On December 13th, patient had a violent attack of dyspnœa whilst in a railway carriage, and was unconscious for some time (?).

Dr. Bronner wished to have the advice of the Society as to whether laryngotomy or tracheotomy should be performed, or if the growths should be periodically removed *per os*.

Mr. Butlin and Sir Felix Semon concurred in the view that thyrochondrotomy would afford no guarantee against recurrence of the growth, and might induce other undesirable complications.

Mr. Spencer suggested that a crico-tracheotomy might be useful in enabling the operator to more efficiently remove the growths.

Complete Recurrent Paralysis.

Mr. Symonds exhibited a man of 61, showing the left cord lying in the cadaveric position. The patient had a stricture of the œsophagus 12½ inches from the teeth, and gave a history of nine months' dysphagia, with loss of voice for four months. When first seen, two months ago, the condition was identical with that now existing. The case was brought forward to illustrate paralysis of the lateralis muscle following upon that of the posticus, which was presumed to have preceded the present stage. The patient also exhibited well the inability to speak a sentence of more than a few words, and gave a good view of his larynx.

Sir Felix Semon said that he could not agree to this being a case of adductor paralysis, and expressed a hope that his friend Mr.

Symonds would see his way to change the title of his communication. Adductor paralysis clearly meant that a vocal cord could not be properly adducted on intended phonation, whilst on deep inspiration it freely went outwards. In the present case, however, the vocal cord stood motionless between the phonatory and ordinary cadaveric position, and there was no question of adductor paralysis. He made it a point to protest against the title because otherwise it would be almost certain to be made capital of. Of greater importance, however, than this individual case was another question he wished to submit to the Society. Was it not time to altogether abolish the expressions "adductor" and "abductor" paralysis? No doubt they were convenient enough, but somehow or other there seemed to be a sort of fatality about misprints with regard to these two expressions, which but too often absolutely spoilt the author's meaning. He instanced several recent experiences of his own to that effect. In Germany, following an analogous proposition of Professor Moritz Schmidt, the two expressions had almost completely vanished. If the words "glottis openers" and "glottis closers" were considered to be too clumsy, why not simply speak of "posticus," "lateralis," "externus," etc.?

In his reply to remarks by Sir Felix Semon, Mr. Symonds recast the original title of the case from that of adductor paralysis.

Removal of Half the Larynx.

Shown by Mr. Symonds. Mr. S— was brought before the Society in February, 1897, with fixation of the right cord, and a diagnosis of early carcinoma. The general opinion at that time was in favor of tubercle. A gland made its appearance in the end of April, and was removed March 17. It had grown with great rapidity, and was already softening. The right half of the larynx was removed April 20. The man was brought forward again, not to show the result of the operation, but because it was thought members would be interested to recall the early appearances. At present the man does full work, and has a moderate voice.

Subglottic Carcinoma.

Shown by Mr. Symonds. A man of fifty-five had been hoarse six months. He came under treatment at Guy's Hospital, in December, with grave stenosis of the larynx. Both cords were fixed, and were visible; the chink was in the centre, and was elliptical in shape; the left cord appeared then slightly pushed up. The arytenoids were fixed. Tracheotomy was necessary on January 1. The diagnosis lay between malignant disease and syphilitic perichondritis. There

was no breach of surface, but there was an abundant foul expectoration. The man was then in low health. Mr. Symonds regarded the case as one of subglottic carcinoma, and asked for an expression of opinion.

Note.—At the meeting Mr. Symonds reported that since his last examination of the patient, three days ago, when the above report was written, a marked change had taken place. The left side had become more prominent, and a whitish edge was visible along the left cord—appearances pointing to malignant disease.

January 17.—Mr. Symonds sends a note to say the whole interior of the larynx has become swollen, that a papillated whitish mass can be seen in the position of the left cord, leaving no doubt of the malignant nature of the case. The general health has greatly improved.

Formative Osteitis (Leontiasis Ossium).

Shown by Dr. Watson Williams (Bristol). A specimen of the septum nasi and a portion of the frontal bone and left malar bone from a male æt. forty-six. There was no history of syphilis, and no known cause for the disease.

Post-mortem examination.—The patient presented large, smooth, bony thickenings on either side of his nose, and a smaller boss on the left side of the forehead.

On removing the cranium pus was found situated between the dura mater and the bone over the frontal lobe. This pus seemed to have originally started from the frontal sinus on the left side, which was full of pus. The frontal sinus on the right side was found to be obliterated by soft cancellous bone. The pituitary body was normal in size.

Examination of the nose showed that the sphenoidal sinus and ethmoidal cells were entirely obliterated by cancellous bony growths. The cavity of the nose on the left side was almost entirely filled up by growth from the septum. Apparently also the antra of Highmore were completely filled up with cancellous bone formation. The bones in the face were found to be growing from the malar and upper part of the superior maxillary bones. There was nothing noteworthy about the other organs, and no deformity of bones elsewhere.

Case of Clonic Spasm of Pharynx.

Shown by Dr. Lambert Lack. The patient, a girl æt. nineteen, came under observation at the Throat Hospital about two months ago, complaining of "phlegm in the throat." On examining the pharynx, one at once notices a twitching movement of the posterior pharyngeal wall, which seems to be sharply drawn to the left and then relaxed.

The movement curiously resembles nystagmus. The palate sometimes seems to move slightly in association. The larynx is healthy, and there is no twitching of the laryngeal muscles. The patient has some chronic rhinitis, but otherwise is in robust health, and is not of a specially nervous disposition. This pharyngeal spasm has been constantly present every time the patient has been seen in the last two months, but its duration beyond that is doubtful, as it apparently gives rise to no symptoms.

The case seems identical with that of a man shown by Dr. Bond during the last session of this Society, and is brought forward in the hope that other members of the Society will state their experience of this apparently rare affection, or give some information as to its etiology or pathological associations.

ST. LOUIS LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

Stated Meeting held Wednesday, January 12, 1898.

J. C. Mulhall, M.D., Chairman.

F. M. Rumbold, M.D., Secretary.

Eustachian Tubes Visible Anteriorly. Case presented for examination by Dr. W. H. Loeb.

By reason of extensive destruction of the external nose, cartilages, bones and soft tissues, the eustachian tubes could be plainly seen by anterior illumination. Twenty years ago a small growth was removed from the nose; there was no recurrence until four years ago, for relief of which a plastic operation was performed. Two years later the growth reappeared and the result of the last operations, accompanied by the mild atrophy of the mucous membrane, makes it possible to get the view of the eustachian tubes. The pharyngeal aspect in both instances is entirely visible; likewise the salpingo-palatal and salpingo-pharyngeal folds, and the nasal aspect of the soft palate. The case was presented to exhibit these structures and their action under various conditions, such as swallowing, coughing, speaking, etc.

Laryngeal Vertigo. Paper by Dr. J. C. Mulhall; paper published in full in *THE LARYNGOSCOPE*, volume iv, p. 167.

DISCUSSION.

Dr. L. Bremer (by invitation): It is a rather difficult task to speak on a subject of which one has no personal knowledge. I am in this position as regards laryngeal vertigo; but if I were asked what my diagnosis is of a case, the symptoms of which Dr. Mulhall's patient presents, I would say that it looks like minor or masked epilepsy.

The three coughs, each one being of different pitch, the widening of the eyelids, the rolling upwards and setting of the eyes, the short spell of unconsciousness and rigidity of the thoracic and abdominal muscles; this symptom group seems to best fit in with the disease mentioned. At all events, it would not be amiss to call it epileptoid, or, more properly perhaps, it comes under the head of Jacksonian epilepsy. Semon, I believe, has been the first to point out the analogy that exists between the two kinds of seizures. Perhaps a closer observation than has thus far been possible will render this supposition a certainty. Whether the cough mentioned by the person watching the attack is really such, or one or another form of the expiratory sounds which are so frequently observed initiating epileptic attacks, is questionable. Judging from the difference of pitch, I am inclined to interpret it as belonging to the latter group of sounds. The probability of a laryngeal vertigo (or more properly called "ictus laryngis" by some authors) being a variety of Jacksonian epilepsy, is supported and strengthened by the experiments of Semon and Horsley, who, while irritating the cortical larynx center, succeeded in producing general convulsions such as are observed as resulting from excessive stimulation of other cortical motor areas. It is true that in fifty cases recorded so far in literature, not a single one has occurred in an epileptic, and that, on the other hand, laryngeal vertigo is not, generally speaking, mentioned by the authors of neurologic text-books as being of the nature of petit mal. But the study of the disease may be said to only have begun, and the near future will probably bring accounts of personal observations of attacks of the disease under discussion. If it is really of epileptic nature, it is strange that not one among the fifty cases has shown the development of typical convulsive seizures. In the present state of our knowledge, these alone are looked upon as positive proofs of genuine epilepsy. The mental confusion, mentioned by some authors, following the attacks, point also to epilepsy.

Dr. Frank R. Fry (by invitation): The essayist has very well drawn the lines of differentiation between laryngeal vertigo and epilepsy on the one side, and laryngeal crises of tabes on the other, to my mind as well as it is possible to do so. However, some of the cases present more cerebral symptoms than others, and I think this might become a basis of separating the cases into two classes or types; one in which the cerebral symptoms are marked, the other in which the laryngeal symptoms are the prominent feature. Some observers, more impressed with the cerebral features, are led to class the condition with the epilepsies; others remarking more the laryngeal symp-

toms regard it merely a "reflex neurosis." Dr. Bremer has called attention to a fact that we must keep foremost in our minds in considering the etiology, namely, that a neuropathic predisposition is at the bottom of all these cases. This being granted, we may readily understand how various influences may act as immediate or exciting causes. Dr. Mulhall very properly, I think, regards lithæmia as the cause in his case. His history shows plainly enough that the individual was of a neurotic temperament.

Dr. Fayette C. Ewing: I should like to call attention to two things, viz: The rapid increase in the number of cases of laryngeal vertigo reported, and the scarcity of literature upon the subject. There were only nineteen cases of the affection on record up to and including 1894. In my examination of a number of standard textbooks of laryngology, I have either found no mention of the disease at all, or a most cursory description. The one exception was that of Lennox Browne, who, himself, points to its general omission from the books.

Exostosis of External Auditory Canal. Dr. M. A. Goldstein.

The interesting features presented in the reported case were the unusually large size of the growth, the difficulties encountered in the diagnosis and the methods employed for its removal.

The history of the case presented no feature of value as to the etiology. The patient complained some three years ago of an acute earache of two or three weeks duration; pain and impaired motor function of the domain of the facial nerve of the affected side were the principal symptoms at that time. After convalescence from the acute otitis, the patient was annoyed by a frequent itching in the aural canal, which he relieved by scratching the area with matches and toothpicks. This pruritic attack subsided in a few weeks and no further attention was given to the ear until shortly before his presentation at my office for the relief of deafness, which he thought was almost complete on the affected side.

On examination I found the left auricle assuming a position at right angles to the side of the head; the auditory meatus very large; filling up the entire lumen of the canal and appearing within one-half inch of the meatus was a rounded mass, pale red in color, moderately painful on pressure, and offering considerable resistance to the touch of the probe. With a thin probe I was able to circumscribe the convex surface of the tumor, tracing its point of fixation to the posterior wall of the auditory canal.

I supposed this to be a large fibrous polyp until, when proceeding

with the operation, I had snapped several strong loops of piano wire carried in the snare with which removal of same was attempted. Closer examination of the tumor and incising of its outer covering proved it to be of bony consistency.

The working area for the introduction of instruments behind the tumor was limited. I tried several small bone drills with the surgical engine, but could not penetrate this mass of ivory hardness. I finally succeeded in placing a long, slightly concave, oval curette over the convex surface of the tumor, and with a gentle, firm leverage the mass was suddenly loosened and carried with a curette out of the canal.

A few weeks' treatment sufficed to restore the canal to an almost normal condition; the membrana tympani was intact and uninjured; the two small pedicles, by which the tumor was attached, were discernible on the posterior wall of the canal about the junction of the inner with the middle third.

The exostosis measured one and a half centimeters in long diameter and one centimeter in the short diameter. After comparison with similar cases, previously reported, where the size of the tumor and the character of the attachment had been indicated, I find that this is the largest exostosis thus far observed in the auditory canal, where a distinct pedicle has been found and the bony mass removed in its entirety.

BOOKS AND PAMPHLETS RECEIVED.

The Medical Annual and Practitioner's Index. John Wright & Co., Bristol, Eng. 1898. Sixteenth year. Price, \$2.75. U. S. Publisher, E. B. Treat, 241 W. 23d st., New York City.

Ueber die Verwertung der Pharyngo-Laryngoskopie in der Diagnostik der Erkrankungen des Centralnerven-Systems. Dr. R. Dreyfus, Strassburg. Published by Gustav Fischer, Jena, Germany. Price, 30 cents. U. S. agents, Lemcke & Buechner, New York.

Der Einfluss des Klimas und der Witterung auf die Entstehung, Verhuetung und Heilung von Ohr-, Nasen- und Rachenkrankheiten. Prof. Dr. H. Hessler, Halle. Published by Gustav Fischer, Jena, Germany. Price, 75 cents. U. S. agents, Lemcke & Buechner, New York City.

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THE LARYNGOSCOPE.

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No. 5.

ORIGINAL COMMUNICATIONS.

THE AIX-LA-CHAPELLE TREATMENT OF SYPHILIS OF THE NOSE AND THROAT.

BY ANTON LIEVEN, AIX-LA-CHAPELLE, GERMANY.

Translated by M. A. GOLDSTEIN, M.D., St. Louis.

In the January, 1898, issue of THE LARYNGOSCOPE, Dr. St. Clair Thomson advocates the treatment of tertiary syphilis of the nose and throat by mercurial inunctions. This system of treatment is of especial interest to me, because it brings to notice two generally recognized facts in Germany, and especially in Aix-la-Chapelle:

First.—That not only iodine, but also mercury, is indicated in tertiary syphilis of the upper respiratory tract.

Second.—That inunction is the best method for exhibiting the action of mercury.

St. Clair Thomson cites English authorities, who claim that mercury in the therapy of tertiary syphilis should not be independently considered. In Germany the opinion is prevalent that lasting results cannot be obtained without the use of mercury. We, therefore, follow up a vigorous therapy by iodides with mercurial treatment. In serious cases, however, where the life of the patient, or the matter of important functioning organs comes in consideration (cerebro-spinal syphilis), or where, in any cases of tertiary nasal syphilis, energetic measures are recommended for cosmetic reasons, I never hesitate to

promptly include a vigorous treatment by mercury, in addition to the administration of the iodides.

The importance of this combined treatment is indorsed by the most recent statistics. The appearances of tertiary syphilis, according to recent observers (Michelson, Lieven), emphasizes the fact that nasal syphilitic gummata are more frequently noticeable in the course of from one to three years after primary infection, and that tertiary syphilis of the upper respiratory tract is not always delayed for ten or more years after primary involvement, as formerly claimed.

The shorter the period between the primary infection and the tertiary manifestations, the more efficacious the action of the mercurial therapy.

There are exceptions, however, even to this rule, and instances have been very occasionally observed where the exclusive administration of iodides or of mercury in tertiary syphilis have been followed by negative results, even though every precaution had been taken to meet given conditions. It occasionally occurs that tertiary syphilitic ulcerations spread rapidly, and that gummatous neoplasms are disorganized when mercury alone is administered. To be on the safe side, then, it would be rational, in cases of this character, to combine the administration of the iodides with mercurial treatment.

I not only indorse the suggestions of St. Clair Thomson, that the administration of mercury in tertiary syphilis of the nose and throat is indispensable, but also share the opinion that the method by inunction is the most energetic measure to be adopted for the proper administration of mercury in these conditions. Stress should be laid, however, on the proper and carefully conducted method of making these inunctions.

Kaposi¹ states that the exhibition of mercury by inunction is the most reliable, rapid and complete method of exhibiting this drug. Joseph² indorses this opinion. Even Niesser³, the active advocate of the injection method, indorses the efficacy of this treatment, in the following words:

"Some occasions may present themselves in which the method by inunction is to be preferred to all other forms of therapy."

The excellent results which have been obtained for some time past in Aix-la-Chapelle, in the treatment of syphilis, may be attributed to the vigorous and systematic application of mercurial inunctions. I take the liberty of submitting a brief résumé of the well-known Aix-la-Chapelle treatment:

1. *Pathologie und Therapie der Syphilis*. Stuttgart, 1891.

2. *Lehrbuch der Haut und Geschlechtskr.* Part II, p. 254.

3. *Die Einreibungskur*. Volkmann's Samml. Klin.-Vorträge. No. 190, 1897, p. 1106.

The patient arises in the summer at seven o'clock, in the winter at eight o'clock; drinks several glasses of special spring water during a one-half hour promenade; one-half hour later he takes a sulphur bath (95° F.) of twenty minutes duration. In weak patients breakfast should precede the bath by about one and one-half hours. After the bath the patient rests for one-half hour; he is then ready for breakfast.

In vigorous patients I add the vapor bath to the above plan; this is an exceedingly active stimulant to tissue change. After breakfast the patient receives an inunction at the hands of an experienced rubber. Daily one of the following areas are subjected to the inunction: 1, both thighs; 2, both axillas; 3, breast and sides; 4, back; 5, both arms.

The patient is directed to wear woolen undergarments, which are to be changed only once weekly. The anointed areas are rubbed for twenty minutes, until the parts are almost dry. The patient should be instructed not to wash these areas when bathing. The skin is dried about these parts simply by pressure of the towel to absorb the moisture and thus avoid removing any of the salve. Only those parts which are to be anointed the following day are to be thoroughly washed.

The patient is instructed to rest one-half hour after lunch; then two or three hours exercise should be taken (promenades in the woods, bicycling, riding, tennis, etc.) About half-past five a draught of spring water (about 300 grammes) is taken. Dinner at seven o'clock. At half-past ten the patient retires. The sleeping apartment at all times should be thoroughly ventilated.

To avoid stomatitis, the patient is directed to cleanse his teeth with the following tooth powder, after each meal:

R _x .—Salol	grms.	4.0
Resorcin	"	2.0
Pulv. irid. flor	"	40.0
Calc. carbon.....	"	8.0
Carmin	"	0.3.
Ol. menth. pip	gtts.	10.

I also direct that the mouth be rinsed every half hour, with the following mouth-wash suggested by Dr. St. Clair Thomson:

R _x .—Liquor. alumni. acetic.....	100
Aq. flor. aurant.....	300
Aq. dest	800

The patient carries this with him constantly in a flat bottle. If,

after these precautions are observed, there are still indications of stomatitis, the gums should be painted every two hours with tincture of myrrh. In spite of these precautions stomatitis may develop, and, as a rule, makes its appearance about the upper incisors and posterior area of the wisdom teeth, characterized by a detachment of the gums, with the formation of a white zone of demarcation. When this occurs it is not an indication, as is usually supposed, for the cessation of treatment. When such a condition presents itself, the following procedure is adopted:

With a small applicator, tufted lightly with cotton, the white deposit between the gums and teeth may be wiped away carefully, and the cleansed area pencilled with a seventy per cent solution of chromic acid. The chromic acid solution should not be allowed to diffuse in the mouth, and the patient should avoid swallowing for about twenty minutes. The day following such procedure the patient can usually masticate even hard food.

Moderate diarrhœa may be regulated by the following:

R.—Decoct. colombo.....15.200

Tinct. opii.....gr. i

M.—A tablespoonful every two hours.

A diet of oatmeal gruel, eggs and toast, is prescribed for twenty-four hours; also the drinking of tea without sugar, and claret.

Cases of severe mercurial poisoning are of very rare occurrence here. Patients who have exhibited poisoning symptoms at home or in sanitariums, after the administration of small quantities of mercury, have demonstrated their ability to undertake a six or eight weeks' course of treatment in Aix-la-Chapelle without the slightest sign of mercurialism.

I attribute this fact to the stimulation of the tissue-metamorphosis by the thermal baths, and the internal use of the sulphur water.

Secondly, the apparent cause of this successful course of treatment in Aix-la-Chapelle, where large quantities of mercury may be exhibited without bad effect, may be due to the favorable influence of the baths, which seem to diminish the toxic effects of mercury. The researches of Grabower¹ have established the fact that the influence of sulphur on mercury causes the conversion of large quantities of metallic mercury into HgS, and that this combination, by reacting in a milder and more constant manner, produces a powerful anti-syphilitic effect, as already mentioned. I combine with the course of treatment here described, for tertiary syphilis of the nose and throat, the internal administration of from two to six grammes

1. Arch. fur Dermatol. und Syph., Vol. 31, p. 187.

of potassium iodide daily. In anæmic patients I prescribe the iodide as follows:

R _x —Kali iodat.....	grms. 30
Ferr. citr. ammon.....	" 4
Tinct. nuc. vomic.....	" 8
Aq. dest.....	" 30
Tinc. chin. q. s. ad.....	" 120

M.S.—Two to four teaspoonfuls daily in water.

After the disappearance of the gummata and the healing of ulcerations, the iodide administration is discontinued. In my opinion, the iodides exert their influence only as resorption agents of the products of tertiary syphilis; the poison itself and the hypothetical bacteria can be influenced only by mercury.

As regards diet, I would add, that in the course of treatment prescribed at Aix-la-Chapelle, especial stress is laid on the administration of nourishing food. To build up the strength of the patient, no restrictions in diet are given, with the exception of sweets, strong salads and cheese. By this exclusion there is less predisposition to diarrhœa.

As to drinks, two to three glasses of Münchener beer or a half bottle of French claret are allowed in the evening. Alcoholic drinks are absolutely excluded.

In addition to the general therapy, careful attention to local treatment of the nose should be given; this is especially directed to the removal of the foul-smelling secretions, and also to the careful disinfection which follows the breaking down of the tissue in the nasal cavities.

The crusts are removed by sprays of thermal water or lifted out by the forceps. The coarse residue may be removed by the daily use of the Gottstein cotton tampon; this may be covered with a ten per cent euphœn salve. The ulcerations are pencilled with a seventy-five per cent solution of chromic acid; this should be done under good illumination and by the use of the speculum. The same may be also applicable to the pharynx. In the larynx ten to twenty per cent solution should be used. Sequesters, after they have been loosened, may be surgically removed.

In conclusion, I desire to add, that Aix-la-Chapelle is properly equipped throughout the year for the treatment of tertiary syphilis of the upper respiratory tract.

RHINOLOGY, LARYNGOLOGY AND OTOTOLOGY IN FRANCE.

BY GORDON KING, M. D., NEW ORLEANS, LA.

In Bordeaux this clinic is sustained by the faculty of medicine as an important part of its clinical annex, but it is to the personal management, constant attention and untiring zeal of Professor Moure that it owes its prosperity and its many facilities, both for the care of the patients and for the instruction of students.

The course of official instruction of the faculty, in charge of Prof. Moure, is carried on during nine months of the year, and it is not only obligatory for the candidates for graduation to attend the courses, but they are now required to undergo an examination in otology, laryngology and rhinology before obtaining their diplomas.

Prof. Moure conducts his teaching in a decidedly practical manner, examining each case before the students and demonstrating the lesions by means of diagrammatic sketches, at which he is more than an adept, and by the aid of anatomical preparations and crayon drawings—the work of his own hands. In the clinical work he is aided by his able assistant, Doctor A. Brindel, and four or five clinical assistants. The clinic is open five days in the week, from 9 a.m. to 12 m.; Mondays and Thursdays being devoted exclusively to laryngological cases, Tuesdays and Fridays to the ears and nose, and Saturday is operating day.

There is abundant clinical material and a most interesting variety of cases. An examination of the register shows the number of consultations from January 1st, of last year, to November 25th, inclusive, to be 8,685, of which number 5,124 were for the ear and nose, and 3,561 for the larynx. During the same period of time there were 2,556 new cases for the nose and ear and 850 for the larynx. A total of more than 582 operations were performed, including several mastoid operations, thyrotomies, radical operations upon the frontal and maxillary sinuses, adenotomies and many minor operations of the every-day clinical work, such as removal of septal spurs and nasal polypi, myringotomies, etc. Very strict attention is given to preserving asepsis of the instruments, not only in the operations, but also in the ordinary examination of the patients. Each patient, upon entering the consultation room, is given a plate containing a sterilized tongue depressor, ear and nose speculum, a laryngeal and post-nasal mirror and whatever other special instruments that may be

required for the examination of his case. After having been used, the instruments are returned to the sterilizer and prepared for another patient.

For ordinary purposes gas light is employed, and the patients, being seated with their backs to a long table, are examined each in his turn, according to the registration numbers. Constant use is also made of the electric head mirror for the intra-nasal or intra-laryngeal manipulations, operations, dressings, etc., and on the laryngeal days Prof. Moure employs, for the benefit of his students, a very strong arc light for direct illumination of the parts.

The supply of electricity for illumination, motors and cauteries, is obtained both from storage batteries and the street current. But little use is made of the electric drill in the operative work, preference being always given to the cutting forceps and guillotine knife for the removal of septal spurs, and the hand drill or gimlet for puncture of the maxillary sinus by the alveolar process. Vibratory massage, however, in laryngeal paralysis and in the treatment of atrophic rhinitis, is accomplished by means of the electric motor. Removal of hypertrophied faucial tonsils is done, usually, with the electric hot snare, less frequently with biting forceps, and rarely with the cutting tonsillotomes.

Their method of operating adenoid vegetations differs but little from our own, except that the curette alone is used and anæsthesia is but rarely considered necessary. When the little patients are particularly noisy and unruly, a few whiffs of bromide of ethyl are sometimes given.

Intra-nasal injections of boric acid solution are made before and after the passage of the curette; in the first place to cleanse the parts, and in the second place to check the hemorrhage.

Their treatment of suppurative otitis deserves special mention, as these cases are given most careful attention and the results obtained have been of a nature quite encouraging, if not satisfactory. Without considering those cases wherein radical measures are at once indicated by immediate danger or evidence of serious complication, I may say that the following are the lines of treatment habitually adopted in chronic middle-ear suppurations:

The condition of the middle ear having been ascertained by examination, the parts are thoroughly cleansed and the meatus packed with iodoform gauze. Injections are no longer employed, unless the discharge is excessively abundant, and the dry dressing of iodoform powder and gauze is renewed three or four times a week, care being taken to prevent any further infection from the outside. If, at the

end of two or three weeks, this regime does not bring about a cessation of the discharge, or a marked improvement, ablation of the ossicles and curettage of the cavity is resorted to, and the dry dressing continued as before. This has been found to suffice in many cases where the diseased process was confined to the drum cavity alone, but when sufficient time has been given for the discharge to cease and it still continues radical, surgical interference is considered necessary. The operation performed by Prof. Moure in these cases is a modification of the classical Stacke's operation. It consists in opening largely the mastoid antrum and cells and putting them in free communication with the drum cavity; curettage of the diseased parts; immediate closure of the wound, and the application of the dressings by the meatus. Ablation of the ossicles has been tried in a series of cases of dry middle-ear catarrh, with favorable results, but this treatment is not adopted in all cases. The hearing is tested in all cases for the ear and record kept of the improvement or progressive failure of the hearing throughout the course of treatment.

On the laryngeal days there is an average of forty consultations, and during the past six months I have seen a most interesting panorama of laryngeal affections. Laryngeal tuberculosis, of which there are no scarcity of cases, is treated by local applications of carbolyzed glycerine in solutions of from four per cent to ten per cent, followed by insufflation of iodoform. Where fungus, granulations or considerable localized infiltration exist, the fungoid masses or a part of the diseased mucosa is removed, the laryngeal biting forceps being used in preference to the curette. The lactic acid treatment is not employed in the clinic. Intra-tracheal injections of mentholized or creosoted oil are occasionally practiced in these cases. For small tumors of the larynx and vocal cords the endo-laryngeal operations are usually attempted, but in difficult cases thyrotomy is very frequently performed. The clinic records show some very favorable results indeed in these cases where thyrotomy was resorted to.

A most interesting class of cases that the student has occasion to observe in considerable numbers in the clinic is that of the laryngeal affections of singers, street criers, teachers and persons whose vocations necessitate constant use and often strain of the voice.

Prof. Moure gives his special attention to this class of cases, and his very instructive remarks on the subject of their management and care would be well worthy of reproduction in book form. The treatment usually advised consists of complete repose of the singing voice and avoidance of any vocal strain, combined with light applications of chloride of zinc solutions, insufflation of an astringent powder,

such as saccharated alum, and where there is evidence of weakness or paresis in the laryngeal muscles, vibratory massage is employed.

Time will not permit of a more lengthy sketch of this interesting clinic, but from this incomplete account some conclusions may be drawn as to the methods generally adopted in the treatment of the more important and frequent class of cases and the general principles upon which the clinical work is conducted. I may add that special records are kept of all the important cases and microscopical examination made of all morbid growths, tissues and secretions to aid in the more complete diagnosis of the cases. The armamentarium is one of the special features of the clinic. It is decidedly modern and complete, containing, besides the ordinary instruments required for the examination of the patients, a very valuable collection of special surgical instruments and materials, to which is added each year a new supply, selected by Prof. Moure in his annual tour of the European clinics.

In addition to this is a cabinet of very fine anatomical preparations in which are shown, by different sections, the relations of the bony parts of the middle and internal ear, the nasal fossæ, accessory cavities, etc. These specimens afford admirable opportunities for the study of this special branch of anatomy. The clinical apartments, consisting of a large consultation room, a reception room for the patients, and a vestry and instrument room, are comfortable, well arranged and cleanly kept, but rather too small for the needs of the clinic. In the consultation and vestry rooms are found, garnishing the walls, quite a varied collection of anatomical drawings, engravings, photographic views of clinics and hospitals, and portraits of specialist celebrities. Thus, besides the large amount of clinical material, the student is surrounded on all sides by facilities for studying this special branch of medicine. No special course is given, as in the clinics of Vienna and Berlin, but students are treated with great hospitality and are given free access to the clinic.

The number and variety of cases, the well-established principles of diagnosis and treatment, and the wide range of facilities for the diagnosis and observation of cases, offer to the student such advantages as, I dare say, are to be found in few of the special clinics in Europe.

THE DETERMINING CAUSE OF THE SITE OF ULCERS ON THE NASAL SEPTUM.

BY E. C. ELLETT, M.D.

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The majority of cases of bleeding from the nose which have fallen under my observation have presented a lesion, in the shape of an erosion or ulceration, on the nasal septum, at the lower border of the quadrilateral cartilage, at, or just above, its junction with the floor of the nasal fossa, and just within the vestibule. From the fact that I seldom see this sort of lesion elsewhere, and from the fact that the mention of similar lesions in this location is common in rhinologic literature, it follows that there must be some special reason why ulceration should develop so frequently in this exact spot. The "benign" perforating ulcers of the septum have this same point of departure. The cases of this sort, which represent the maximum extent of the process of which a pin-head sized erosion is the minimum, present an opening of varying size, but usually of the diameter of 10 m.m., in the anterior portion of the cartilaginous septum close to the nasal floor. Ulcers in any other locality are accidental, but it is the cause which determines the location of these lesions of which I propose to speak.

In the *Ophthalmic Record* for October, 1893 (old series) is an article by Raugè, which I translated from the *Revue de Laryngologie*, etc., for August 1, 1893, on "Microscopical Researches on the Organ of Jacobson." The description given is quite complete of an organ not mentioned in most works, and barely mentioned in Morris' excellent "Anatomy." This organ is quite well developed in some of the lower animals especially the ruminants and rodents. "It presents itself under the form of a cartilaginous tube, enclosing a cylindrical fibrous sac, and extending on each side of the septum, to the surfaces of which it is closely applied. Immediately below the inferior border of the quadrilateral cartilage, to which it seems attached, these two canals run parallel, in an antero-posterior direction, a little above the angle which unites the floor of the nose to the septum, and resembles the two barrels of a gun, separated in the median line by the bony plate of the vomer."

For a more extended description, I refer to the original article or to the translation. It serves my present purpose to thus roughly

locate this little known structure, and to add that it is rudimentary in man, and usually indicated by a slight depression of the surface of the lower anterior portion of the nasal septum.

Functionally inactive organs are prone to degenerate. The vermiform appendix is a striking example of this, its only manifestation of activity being when it becomes the seat of a pathological process. The faucial tonsils are in the same category. Research has so far failed to attribute to them any physiological *raison d'être*, and they furnish a fertile field for morbid processes and ambitious surgeons. The intermaxillary bone serves only to produce deformity by abnormal development. The proneness of other structures, more useful in their right place, to cause mischief when out of place, is instanced by the frequency with which morbid growths and degenerations develop in undescended testes.

Analogous to these processes are the septal ulcers which occur at the site of the rudimentary organ of Jacobson. Nothing else will explain their predilection for this exact spot, and the conclusion is certainly justified by pathological analogy.

Primary Lesion of Leprosy. (*Phila. Med. Jour.*, Jan. 8, 1898.)

Dr. Sticker (Giessen) examined 400 lepers in India and Egypt during May and June, 1897, for leprosy bacilli in various secretions and excretions. He believes that the initial lesion of this disease consists of a specific lesion of the mucous membrane, usually in the form of an ulcer above the cartilaginous part of the nasal septum. This primary lesion may, during the progress of the disease, develop into every form of chronic rhinitis, with ozena and necrosis of the nasal structures. It is *often present in the latent stage of leprosy years before the appearance of the first tubercles in the skin or the development of the first nervous symptoms*. In an examination of 153 lepers, the presence of bacilli in the nasal secretion was observed 128 times. The author claims that the primary lesion in the nose remains an active center of infection throughout the course of the disease, as the bacilli are being constantly thrown off in great numbers in the nasal secretion, consequently this secretion is the chief source of danger.

LEDERMAN.

FOREIGN BODY IN THE LEFT NASAL CAVITY AND SEQUELÆ.

BY HENRY A. BEAUDOUX, M.D., FARGO, N. D.

November 19, 1897, Helen N., aged six, was brought to my office by her mother, who, at the time, was under my treatment for opacity of the vitreous, with the request that I should examine Helen's nose to discover the cause of the fetid odor which had for some time existed in that region.

Externally there seemed to be little change from the normal, with this exception: there was some excoriation of the left ala and upper lip on that side, with a certain amount of muco-purulent discharge.

On examination of the anterior nares I found a large amount of semi-consistent debris of a grayish-green color, mixed with hard lumps, which proved to be calcareous in character upon further examination.

After removing a large amount with the forceps a fenestrated curette was used to complete the process. Everything yielded to the curettage, so much so that I found my way through the septum without using the slightest amount of force. The anterior two-thirds of the inferior turbinal disappeared under the curette. Up to this time there was no hemorrhage of any account. I proceeded to complete the cleansing of the cavity, keeping in mind the possibility of finding a foreign body. Using the same precaution as heretofore, while working on the outer wall, I found my way into the antrum, and proceeded to break down its inner wall, which fell like the inferior turbinal had, upon the slightest touch of my curette. Seiler's solution was then used, followed by a four per cent. cocaine solution, and the search continued. I had now an opening into the antrum large enough to pass a small hazel nut. With a bent probe I soon discovered a foreign body in the antrum, of stony hardness, which, upon removal, proved to be a shoe button covered with a thick, hard, calcareous envelope. How long it had been there no one knows, as the child refused to tell when she had pushed it up her nose.

Queer to say, upon transilluminating the antri, no disturbance could be detected, nor did the child complain of any pain in that region.

Antiseptic and stimulating treatment was begun, after removal of all necrosed and offensive material, resulting in the closing of the

naso-antrum orifice. When I saw the patient last, the septum perforation was present and will probably never close, the anterior two-thirds of the inferior turbinal being entirely gone. The patient, after two months treatment, is free from the nauseating odor which existed at the time of the operation, and apparently none the worse for the defective nasal anatomy above mentioned.

ON THE USE OF FORMALDEHYDE IN ATROPHIC RHINITIS.

BY GEO. L. RICHARDS, M.D., FALL RIVER, MASS.

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I offer the following brief note as a contribution to the therapeutics of atrophic rhinitis, believing that anything in the way of an addition to our armamentarium in this disease will be welcomed. Remedies innumerable have been and are being tried with more or less success. There is no specific, and, up to the present time, the treatment can be formulated in a few words. Cleanliness and stimulant applications, to promote a freer and thinner secretion, has been about all that we have been able to accomplish.

Observing the powerful germicidal properties of aqueous solutions of formaldehyde, it occurred to me to try what effect it would have when used in atrophic rhinitis; not to displace any treatment which might be in use, but as an adjunct, for I have not myself used it alone to the exclusion of other remedies. I have used it as follows: After removal of all the crusts and debris with a weak alkaline solution, by means of a syringe and cotton applicators, I have then washed out each nostril thoroughly with a solution of formaldehyde, containing about five to ten drops of the forty per cent solution to eight ounces of warm water. As it is very irritating, even in dilute solutions, a preliminary spraying of the nose with cocaine is advisable. It produces always a sense of smarting throughout all of the nasal mucous membrane with which it comes in contact, lasting, however, but a short time. At home I have one drop added to the solution, which the patient uses in the douche cup for the daily cleansing. Under its use the crusts diminish in number and all unpleasant odor ceases. This is reported as a preliminary note, with the hope that others will try the remedy and report on the same.

A CASE OF NASAL SYPHILIS WITH PRESSURE SYMPTOMS SIMULATING MENINGITIS.

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The following case is of interest, as showing the need of always being on the lookout for syphilis, especially where the disease fails to respond to what is apparently the appropriate treatment. T. E. K., thirty-two, barber, in apparently good health, consulted his physician, with symptoms of obstruction in the right nostril, complaining at the same time of headache. The history was one of trouble with the nose of four or five months' standing, and headache of two to three months, gradually increasing in severity. A little tissue was removed from the right nostril without any relief to either obstruction or headache. The advice of another physician was sought, who prescribed for his headache and sent him to me for his nose. At his first visit I removed a large amount of granular hypertrophy from the posterior end of the inferior turbinal, and subsequently from the anterior end, the right nostril being filled with this granular hypertrophy when I first saw him. Although these two operations cleaned out the nose so that he could breathe without trouble, he complained more than ever of the headache, which he said was intense and constant, not being in the least helped by medicine. He began to have a haggard appearance. On his next visit I discovered, with the probe, dead bone in the anterior ethmoid cells of the right side. The curette was used, and considerable cheesy pus, with spiculæ of dead bone, removed. Up to this time I had not suspected syphilis, but careful questioning at this visit revealed the fact that he had had an initial lesion seven or eight years before, the fact of which he had almost forgotten. The headache was now very intense and he had all the signs of pressure on the brain from some cause. As the curetting under cocaine had been very painful and had evidently been insufficient, he was given ether, and all the carious bone in the right nostril and anterior ethmoid cells of that side removed, and the whole upper meatus thoroughly curetted, so thoroughly that I was a little afraid that I had gone too far and possibly injured the roof of the nasal cavity and cribriform plate. On the contrary, no harm was done; the headache was in a few hours relieved and in a day or so was gone. The syphilis was appropriately treated from the moment

that it was discovered. The region curetted discharged for a week or so, at the end of which time no dead bone could be felt. This case had all the appearances of going on to a general meningitis and without the timely curetting would probably have ended fatally.

Examined two and one-half years later. There has been no recurrence of trouble, though, as he says, that he did not continue the antisyphilitic treatment after he felt all right. I do not believe the syphilitic poison is wholly eradicated, especially so, as he owns up to an occasional headache, not at all, however, of the severe type referred to here. It is, therefore, in the line of possibility and, perhaps, probability, that the disease will break out again somewhere at some future date. Syphilis is so protean in its manifestations that the possibility of its being a factor in the individual case must never be lost sight of. In my opinion it is a disease which is very seldom cured, because with the subsidence of acute symptoms the treatment is discontinued.

A Micro-organism which Behaves Morphologically and Tinctorially as the Tubercle Bacillus.

Dr. Alfred Moeller (*Deutsche Medizinische Zeitung*, Feb. 17) has added a very interesting—it may be a very important—contribution to bacteriology. He finds in timothy grass, and in the feces of many animals, a germ which, so far as its staining reaction and its form are concerned, seems to be identical with the tubercle germ. He says that if some timothy is placed with sterilized water in rubber-capped test tubes and these placed in an incubator for eight to fourteen days, one will find on staining, at least in many of the tubes, this germ. He has also found it in the dung of many cattle, horses, sheep, swine, and mules. (The cattle were all proved by tuberculin to be free from tuberculosis.) As a rule the germs are scarce in the dung. The germ grows on the same culture media on which the tubercle germ develops, but will not grow in either sterilized or non-sterilized milk. It grows at room temperature, as well as in the incubator. Whether this is the genuine tubercle germ, or merely a germ that happens to have the same physical properties, remains to be shown. Moeller promises in a future communication to describe its development in relation to Koch's tubercle bacillus, its pathogenesis, etc.—*Medicine*.

NASAL FIBROMATA, WITH REPORT OF CASES.*

BY LOGAN M. CRICHTON, M.D., ATLANTA, GA.

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Fibroid tumors in several locations of the body are, of course, extremely common, as, in the uterus; again, a large number of fibromata of the pharynx are reported.

In looking over the literature I find pure fibrous tumors of the nose quite rare. I also find that they have not received the attention which I think their importance demands, the difficulties and dangers of diagnosis and operation not dwelt on sufficiently, the young specialist not warned to be careful in attacking these cases. In several works, which should be exhaustive, from one-quarter to one-half page only is devoted to the entire subject, while mucous polypi, having no element of danger, are treated of at length.

I find some fifty odd cases reported, dating back to 1832; since then case after case has been added to the list. I am somewhat inclined to doubt the accuracy of some of these earlier diagnoses, as nasal surgery was then, as it were, in its infancy, and the methods of examination and diagnosis were rather crude. Be this as it may, we have cases reported all along the line by Senn, König, Lincoln, Langenbeck, Mott, Gerdy, Syme, Verhæghe, Gomez, Pepinster, Fisher, Van Domelin, Gay, Mougins, Dickson, Maisonneuve, Hodgen, Steiner, Hitchcock, Chattellier, Seiler, Villar, Ingals, Jarvis, McKenzie and others.

The exciting causes are admitted to be trauma and irritation; the indirect cause, the excessive functional activity of the nose and the connective tissue changes which the nasal mucous membrane undergoes. We find these tumors during the younger period of life, oftener in the male than in the female; both of my cases occurring in young men aged respectively eighteen and nineteen years.

Unilateral stenosis is usually the first symptom which the patient complains of; this, of course, comes on quite gradually, as the growth of the fibroid is slow. The discharge in both my cases was peculiar, and I am forced to think characteristic, although I find no description of such a discharge in the literature of the subject. In both of my cases it was a whitish, opaque, glistening and markedly granular substance, collecting around the tumor. I have never seen such a dis-

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charge except in these two cases of nasal fibromata. Later the discharge has mixed with it blood and possibly some broken-down tissue, due either to erosions on the tumor itself, or of the surrounding mucous membrane. Epistaxis is considered by some observers absolutely inseparable from these fibroid growths. This is not, however, my experience; one of my cases gave chronic nose-bleed as one of his main symptoms, while the other gave no history of epistaxis whatever.

Headache or neuralgia is almost invariable after the fibroid has reached any size. These will vary according to the location of the growth. One of my patients complained of occipital and frontal headache—the tumor was located toward the posterior nares; the other of violent supra and infra-orbital neuralgia—the fibroid was located in the middle two-thirds of the nasal chamber.

Observers give other symptoms, due to pressure effects, as exophthalmus, spreading of the bones of the nose (frog face), etc. None of these were present in my cases, on account of the comparatively small size of the tumors.

Dolbeau claims that unilateral stenosis characterizes naso-pharyngeal tumors, and seems to lay considerable stress on this point. I agree with Bosworth, in taking an entirely opposite view. With the perfect illumination we can give the nasal chambers and the upper pharynx, and the invaluable aid which cocaine renders us, the diagnosis of these tumors is made, provisionally, without great difficulty and with considerable accuracy. I say provisionally, advisedly, because I always have some doubts of a diagnosis which is not backed up by the microscopic examination of the tumor. The growth is described as "irregularly rounded or lobulated, smooth and glistening in appearance, and presents a decidedly reddish-pink color. In some cases the blood vessels can be recognized coursing near the surface by the whitish background of which the tumor is composed." This description answers excellently for one of my cases, but would not for the second. Both of my tumors had very broad pedicles, and were not easily movable; hard and resisting to the impact of the probe, one bleeding readily when manipulated. All observers state that the growth adapts itself, to a certain extent, to the shape of the cavity in which it is confined, extending most where there is the least resistance, but growing in all directions without regard to the surrounding structures. I noticed this in my cases, although only to a limited extent.

It is conceded, I believe, that fibroids spring more often from the ethmoid; cases are reported coming from the floor of the nose, also

from the septum; one of mine came from the septum, the other seemingly from the ethmoid.

Tumors to be excluded in differential diagnosis are, osteoma, chondroma, sarcoma, carcinoma, nasal polypi (soft, which by irritation or rough unsurgical handling have assumed a somewhat fibrous consistency), adeno-fibroma, osteo-fibroma, chondro-fibroma, and, possibly, gumma.

The prognosis in these cases depends, of course, to a certain extent at least, on the size of the tumor with which we have to deal. If left uninterfered with death would eventually result, the tumor extending and destroying surrounding vital parts by pressure. The growth of the tumor is, as is the case, I believe, in fibroids *generally*, slow. The earlier the operation the more satisfactory the prognosis. If the removal be accomplished before the growth makes it necessary to resort to one of the more heroic measures (removal through the palate or resection of the superior maxilla), I consider the prognosis would be good. The main and only danger is the profuse and sometimes uncontrollable hemorrhage.

Chemical caustics, evulsion or avulsion, electrolysis, galvano-cautery, splitting the tumor with the galvano-cautery knife and snaring each half separately, have been tried with varying results. All things considered, I prefer the cold or hot wire snare when the growth is not too large. When the tumor *is* too large for intra-nasal operation, then we would be forced to resort to one of the more heroic measures, as Rouge's, Cassaignac's, Ollier's, Langenbeck's, the case being referred to a general surgeon.

Case I. Referred by Dr. K. C. Divine. C. E. M., male, æt. eighteen years, dry goods clerk. Consulted me in June, 1894. Family history excellent. Father and mother both living and in good health. Never heard either complain of any nasal trouble, more than ordinary colds; no record of any tumors occurring in his family. Consulted me on account of one side of the nose being completely blocked up; also complained of chronic, and at times profuse, nose-bleeding; gave history of intense occipital and frontal headaches. About ten or twelve months before consultation first noticed slight blocking of left side of nose; the obstruction continued to increase and a discharge began; his description of the discharge was unusually accurate for a layman. Nose-bleeding did not begin for several months after noticing the first obstruction; these hemorrhages increased in severity until some ten days before consulting me; he bled sufficiently to cause fainting. The bleeding was sometimes through the ant. nares, sometimes the posterior. Headaches had been

present about two months. Examination anteriorly showed the left nasal chamber open as far back as the junction of the middle and post. third; at this point I found obstruction. Throwing in a ten per cent solution of cocaine, and waiting ten minutes, I examined again. I could now see distinctly blocking the chamber a tumor of reddish-pink color, somewhat irregularly rounded, several blood vessels showing on its surface. The tumor was dense, resisting and slightly movable; manipulation caused some bleeding. Post. examination showed growth about three-quarters of an inch from post. border of vomer, filling the nasal chamber completely. I diagnosed the tumor nasal fibroma and advised removal.

I selected the galvano-cautery snare, thinking it safer than the cold wire, although more difficult to manipulate. I did the removal slowly, drawing the wire tight and making the connection about every five minutes. After half an hour I could feel by the snare handle that the tumor was almost severed from its attachment, and was congratulating myself on a bloodless operation, when, at the next turn of the thumb-screw, hemorrhage began; it being impossible to remove the snare, only one course was open to me—to complete the section as rapidly as possible; this I did. By the time the section was finished the hemorrhage was startling, both nostrils pouring forth almost a continuous, solid stream, the patient gulping blood from the mouth as fast as he could spit. Only one measure I felt sure would arrest the harm, so I plugged the post. nares with iron cotton, forcing the plug in as tightly as I could draw it, then packed the ant. nares from the location of the tumor out; then hemorrhage stopped. Roughly estimated, the patient lost something more than a quart of blood. The tumor was about the size and shape of a pigeon egg, the pedicle being between one-third and one-half the size of the tumor, constituting almost a sessile growth.

Dr. J. A. Childs, at that time demonstrator of pathology in the Southern Medical College, kindly made a microscopical examination of the tumor and pronounced it a pure fibroma.

Case II. J. G. S., male, æt. nineteen years, young illiterate German. Consulted me in 1896 for "guitar in the head." Family history excellent. Patient seemed vigorous and healthy. First noticed slight obstruction in left nostril about one year before consulting me; this increased until the nostril was entirely blocked. He gave a history of intense supra and infra-orbital neuralgias; these had become more frequent, as well as more severe, for several months before consultation. Examination showed a large, oblong tumor, extending from about three-quarters of an inch

to an inch of the ant. nares backward to about the same distance of the post. nares, filling the nostril entirely; the growth was distinctly lobulated, of a dead white color; a tracery of blood vessels appeared on its surface; surrounding it was the peculiar whitish, opaque, glistening and markedly granular discharge which I have already spoken of.

Examination with the probe showed the tumor to be dense, resisting and only slightly movable; tumor did not bleed on manipulation, and the patient gave no history of epistaxis.

As well as I could judge the pedicle was about one-third as wide as the length of the tumor, springing, apparently, from the ethmoid. I removed two sections of the growth with the cold wire snare and submitted them to Dr. Leroy Harris, at that time professor of chemistry in the Southern Medical College, now pathologist at Jefferson, for microscopic examination. He pronounced the tumor a true fibroma. My diagnosis was made in accordance with this report. The patient refused operation.

I examined case No. 1 eighteen months after the operation and found no indications of a return of the growth; the patient was in perfect health; reported that the nose did not give him the slightest trouble.

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A DISCOVERY IN THE PHYSIOLOGY OF THE EAR.*

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No organ in the body has remained enveloped in so much mystery as the ear. The labyrinth was well named by the ancients on account of its mysterious form, second only to the eye in importance, among the senses; it yet remains far less known in anatomy, physiology and pathology. The literature devoted to this subject has been great, and it has attracted some of the most profound scientists of the world. Yet, as stated, there yet remains much that is obscure. He who would understand the ear must be a scientist as well as a physician. Much of the cumbrous literature of the ear is thoroughly unscientific, being merely a mass of speculations and theories. For an epitome of all that is known of the ear we might limit ourselves to the works of Helmholtz on acoustics, and Politzer on anatomy, pathology and treatment. Others have distinguished themselves in certain lines, but these between them practically cover the whole knowledge of the subject to date.

In January, 1897, a young lady, a student at Baylor University, was brought to me by her father and Dr. O. I. Halbert to consult me about her ears, both of which had been discharging since childhood. There was tenderness over both mastoids, and the young lady at times suffered greatly with headache and vertigo. There were no remnants either of drums or ossicles in either ear. The hearing in the left ear was about $\frac{1}{10}$, in the right about $\frac{6}{10}$.

I advised operations upon both mastoids, but nothing was done until the following April, when I received a message to come to Temple, which was thirty miles distant, prepared to operate, as she was suffering greatly. I found her suffering with severe pains in the head, and with considerable fever and mental disturbance.

I did the usual mastoid operation, assisted by Drs. Rogers and Barton. The patient remained in the care of Dr. Barton for some six weeks or two months, when she returned to Waco to attend a summer normal school, and incidentally to resume treatment under my care, as the right ear continued to discharge, the left having healed without further suppuration. I reopened the mastoid wound, securing drainage through the ear, and the discharge ceased from the ear in a short time and the wound healed; but, strange to say, when the

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discharge ceased, the hearing almost entirely disappeared, so that she was forced to give up her studies because she could not hear. I applied artificial drums, but none gave relief except a cylinder of paper, which improved the hearing so much that she was encouraged to resume her studies. I continued to irrigate the ear occasionally, and she remarked upon these occasions that her hearing was good while the water remained in the deeper parts of the ear. This has probably been noticed by most aurists, and the accepted theory is that the water acts as a conductor in lieu of the bones, and I supposed that the pus had acted, perhaps, in the same way, and thus I accounted for the loss of hearing when the suppuration ceased.

On one occasion she remarked that the hearing departed with the gurgle of water. Now, the gurgle of water was evidently due to its escape from the attic and antrum cavities. It struck me that, perhaps, the improved hearing was due to the closing of those cavities. I placed some moist cotton into the anterior tympanic and attic space, and found that this acted precisely as the water and pus had done, even improving the hearing so that it was better than she had ever known.

I now decided that neither the cotton nor the water acted as a conductor of sound, but that they cut off the large attic and antrum space from the tympanum, preventing the dispersion of the sound-waves, or condensing them, as it were, upon the walls of the tympanum, or upon the fenestræ. Now, in the normal ear, the ossicles with their attached membranes, muscles and ligaments practically separate the antrum and tympanic spaces so that when the outer drum and the ossicles are destroyed the intensity of the sound-waves is lost by dispersion. I found, on irrigating, that in such ears the fenestrum ovalis, so far as I could detect, took no part in the conduction of sound to the inner ear. I found that it made no difference whether I covered the fenestrum ovalis with the cotton or not, so long as the attic and antrum spaces were cut off. I found that when I covered the fenestrum ovalis the hearing was improved, because it is impossible to cover the ovalis without to some extent cutting off more or less the spaces named. I found that when I applied cotton over the posterior part of the tympanum, covering thereby the fenestrum rotunda, the hearing was greatly impaired, thereby indicating that in such ears at least sound reaches the inner ear, not through the fenestrum ovalis, but through the rotunda. I found, by experiments, that the greater the concentration upon the rotunda, the better the hearing. I have obtained the best results when I could reach the rotunda with a thin rubber tube. Such is attainable only in ears

where the margo tympani is removed posteriorly, otherwise the remains of the drum prevents the proper insertion of the tube. I have four patients who are now wearing such tubes, with most gratifying results. In all, to date, I have examined fourteen patients, and in all my theories of the conduction of sound have been verified. In some the application of the tubes was impractical, because of remains of drum; in others the improvement was slight, because of the hypertrophied condition of the membrana tympani secundaria or the drum of the fenestrum rotunda. Politzer has noted that in many cases improvement in hearing was obtained by means of such tubes when other means had failed, and I am surprised that so scientific an observer as he did not see the reason for these results, but he is an illustration of the difficulty with which we free ourselves from accepted theories. He, with all others of the present time, believe that nearly all sound passes through the fenestrum ovalis. He modified Toynbee's artificial drum by attaching the stapes of a dead body, by means of a thread, to the disc in such a way that the foot plate of the stapes should rest in the niche of the fenestrum ovalis, but he evidently did not regard this ingenious device as a success.

I will state here that in my opinion the invention of the so-called artificial membrana tympani has been the greatest misfortune that could have befallen the science of otology. It has been a stumbling block to every otologist for the past fifty years. It was just fifty years ago, in 1848, that a New York merchant went to see Yearsley, in London, and showed him how he improved his hearing by means of a paper cylinder. Yearsley verified this case in others, and wrote a book on the subject, which was the beginning of the innumerable inventions of artificial membrana tympani which have followed since that time. In the case of the tubes which I use, I find that it requires judgment in shaping them to fit each case. As a rule, the tube is from a half to three-fourths of an inch in length. The inner end is cut square off and a notch made in one side of the cut end. Care is required to see that the outer end is in line with the axis of the meatus. The tube is inserted carefully with the notch posteriorly. The notch is intended to allow the sound-wave to pass directly to the fenestrum rotunda, because in some cases I have found that the fenestrum is so near to the posterior wall of the tympanum that if the notch is not made the wall of the tube will cover the fenestrum.

The discussion thus far has been preliminary to the promulgation of what I regard as my discovery in the physiology of the ear, viz.: that sound passes, not through the fenestrum ovalis, but through the

fenestrum rotunda. I cannot better explain the accepted theory of conduction of sound than to quote Roosa.

He says: "The vibrations of the atmosphere are conveyed through the ossiguli and fenestrum ovalis to the perilymph of the labyrinth. They pass as waves over the vestibule, semi-circular canals and other parts of the labyrinth, and are there transmitted to the scala vestibuli of the cochlea, and, passing down the scala tympani, end in an impulse against the fenestrum rotunda."

The most wonderful roundabout way for a sound-wave to travel.

Most elaborate experiments have been made to show how sound is transferred from the vibrating membrana tympani through the ossicles and thence to the inner ear, but I think most persons will agree with me, on investigation, that such a thing is not very scientific. The limits of this paper preclude much argument, that the auricle gathers like a funnel the sound-waves, enabling also to note direction. The sound-waves, gathered and focused, as it were, strike upon the membrana tympani, which vibrates, not as a whole, but in segments which happen to be in accord with the pitch of the sound-waves. The vibrations of the drum-segment are transferred, not to the ossicles, but to the air in the tympanum, the vibrations of which, in turn, strike upon the membrana tympani secundaria or membrane of the fenestrum rotunda, which is situated in the posterior part of the tympanum, hidden away behind the promontory and at the base of the cochlea, or that part of it known as the scala tympani. The vibrations are transferred directly to the fluids of the cochlea and the nerve filaments in the organ of Corti. There is as much difference in the two routes as there would be in going from New York to San Francisco by rail or going around Cape Horn. The sound-waves pass through the air of the tympanum in the same way that sound passes through a speaking-tube. Sound is transferred almost indefinitely through closed tubes, because it is not lost by dispersion.

There are several points of analogy between the laws of light and of sound. Sound is refracted; it is reflected. Two of the best examples of reflection that I know are found in Statuary Hall, in Washington, and in the great Tabernacle at Salt Lake City. The laws of dispersion are the same in sound and light, decreasing inversely as the square of the distance. Sound is transmitted easily from a vibrating solid to the air, but scarcely at all from the air to a solid unless the fundamental tone of the solid is the same in pitch as that of the vibrating air. Thus, if two tuning-forks of the same pitch are brought near each other, one vibrating, the other will be set vibrating through the vibrations of the air. Every solid has its own time

of vibrating or pitch, known as its fundamental tone. A vibrating solid may transfer its vibrations to another solid having a different fundamental pitch, but at the expense of a considerable force from the first solid. Thus, the pitch of a tuning-fork and a piece of board have quite different fundamental tones, but if the vibrating tuning-fork be placed upon the board then the board will vibrate in the pitch of the fork, but the vibrations will be forced vibrations at the expense of the vibrant fork, whose vibrations will cease all the sooner by reason of the loss of force. I am only enumerating these well-known laws for the sake of argument, which I will now present.

The accepted theory is that sound-waves strike upon the drum, setting it into forced vibrations. The vibrations of the drum in turn are transmitted as forced vibrations to the ossicles and throughout the labyrinth. Each bone, doubtless, has its own fundamental vibration. I doubt if the drum does have a fundamental tone, but most authors assume that it does.

We see from this what resistance a sound-wave would meet with in passing to the auditory nerve, according to the accepted theory. The chirp of a cricket is heard, perhaps, a hundred feet, though the sound is made by the drumming upon a little membrane on the side of his thorax. Knowing the law of the dispersion of sound, is it conceivable that such vibrations could be heard at a hundred feet if they must force the vibrations of the conducting apparatus, as taught at present?

Such a proposition is not rational to me.

Scientifically, we can scarcely conceive of a poorer sounding-post than the chain of ossicles, with their attached muscles, ligaments, membranes, etc.

In my opinion, the functions of the ossicles are to regulate the tension of the drum, and perhaps that of the labyrinthine fluid, and indirectly that of the membrane of the rotundum.

The ossicles constitute a system of levers which are acted upon by the tensor tympani muscle.

The misconception as to the physiology of the ear is responsible for our poor results in understanding the pathology and treatment.

The late Samuel Sexton told me on one occasion that he was led to do what was known as his operation by reason of the utter hopelessness of giving any relief by the known methods of treatment. His idea was that by removing the drum and malleus and incus the sound-wave would strike upon the bony foot-plate of the stapes and be thence transmitted through the ovalis, etc.

To me this is most irrational, though I have done the operation

several times, and attained good results in two cases; but these results were due not to the removal of the ossicles but to the removal of a thickened or hypertrophied drum, so that the sound-waves struck directly upon the inner drum of the rotundum. If I am correct, we may expect more rational treatment of the ear. We will never remove the ossicles, but will often remove sections of the drum to apply medication direct to the tympanum.

A case of mine will illustrate this point. Some three years ago a young lady was brought to me suffering with otitis media in both ears. There was mastoid disease in the left, though it was the main reliance in hearing and had not been affected so long as the right. The hearing in the right ear was almost nil. There was no drum in the right except the margo tympani and a slight margin about the handle of the malleus, which was badly diseased so that the first time I irrigated this ear part of the handle broke off with the dessicated drum and came away. Under the treatment the right ear became healthy, the drum was reproduced, and to-day her hearing in this ear is apparently normal. The attachment of the tensor tympani was evidently not affected; the inner drum was evidently restored to a healthy condition with the reproduction of the outer drum.

The history of the other, and apparently the better ear, is another story. The young lady was rather delicate, and the family physician advised against the use of an anæsthetic. An operative treatment was imperative. I removed the stapes and incus under cocaine, in order to reach the seat of suppuration through the attic and antrum. The treatment was not a success, and while I was on a visit to New York the conditions became so alarming that the family consented to a mastoid operation under chloroform. I resumed treatment of the case on my return, and complete recovery occurred, but with almost complete loss of hearing, because there was nothing to regulate the tension of the drum which grew back.

There are cases where the ossicles are destroyed but where the drum shows a tendency to reproduce. In such cases I would destroy the margo tympani, which would prevent reproduction. I will illustrate this point with the history of a case.

A German girl, aged about twenty years, was brought to me suffering with mastoid disease and discharge from both ears. The young woman had been in this country about four years, working as a servant, but much of the time she had been unable to work because of severe headaches, and lately she had been unable to secure situations because it was said that she acted queerly during these attacks, due, perhaps, to septic infection from the diseased mastoids. I

should state that she gave a history of otorrhœa from childhood, and had been treated in both Berlin and Breslau before coming to America. I opened both mastoids with a dental engine and drill, with cocaine as an anæsthetic. I am not aware that such an operation has been done before with cocaine as an anæsthetic—that is, where the bone is removed. I had done this operation previously in a case of weak heart. I injected cocaine under the skin over the mastoid. I used a trephine made for me by Dr. Dupree, a dentist. The trephine had a cutting instead of a saw edge. The cylinder was attached to an old engine drill, so as to be operated by the engine. With this trephine I could cut the skin and soft tissues down to the bone almost instantly. I used chromic acid to stop hemorrhage. The acid acts as an instantaneous hæmostatic, and it serves a useful purpose afterward by preventing a too rapid filling in of the wound with granulating tissue. The drilling of the bone itself is almost painless, and for this purpose I use an ordinary dental bone-drill. I secured drainage through both ears with rapid and complete recovery, and the scars in this case would never be noticed. The point that I would make in this case is in reference to the drums, which showed a tendency to reproduce, and they also prevented the use of the tubes. I destroyed the margo tympani in both ears, after which I was enabled to use the tubes with perfect success.

In conclusion, I will recapitulate a few points which have been overlooked. One thing is this, that largely by means of the cases referred to I have been enabled to satisfy myself as to my theories, yet I find that almost every phenomenon observed by me has been also observed by others. The fact is that it is impossible for anyone to be strictly original in a profession so old as that of medicine. Pascal, and at a more recent date Sapolini and Pecchi, advocated some of the theories that I do in regard to the transmission of sound to the inner ear. My experiments have not been so elaborate as those of Politzer, Helmholtz and others. The fact is that they went deliberately to prove that sound-waves reach the ear through the ossicles, while I, not finding the drum and ossicles absolutely necessary to hearing, have only attempted to account for a different method of transmission.

The drum in a normal ear is in a perfect state of equilibrium; a closing of the Eustachian tube, or a thickening, or the attachment of a little mucus, will impair the hearing. The fibers of the drum radiate from the attachment of the malleus to the periphery so that they are as varied as the strings of a harp. No animal membrane can be made to imitate the natural drum. I have used bladders and

other animal membranes, but without success, as imitations. The best imitation that I have found is silk, which I stretched over a wooden butter-mold like a drumhead. I made the concave tension by means of a string attached to a small piece of wood on the outside of the silk head, the string passing through the mold and fastened to give the proper tension. I made the convex tension to imitate the short process by a wooden post passing through the mold. Drumming upon this silk drumhead with a small rod gave different notes, according to whatever segment was struck, according to the length of the tense cloth producing the chords.

I cannot conceive it possible that every gentle tone that reaches the brain must necessarily set in vibration the whole drum membrane and the ossicles with all their muscles and attachments; such would require great force. A sound-wave, as a result of energy or as a transferred force, could never equal or exceed its source, without ever considering the well-known law of dispersion. The ossicles and drum are very small in themselves, yet it requires considerable force to vibrate them as a whole—far more force, indeed, than would be possible by nearly all the sounds which reach the ear. The ease with which solids are thrown into vibrations by waves that are in the same pitch has been noted, and also the greater difficulty of forcing them to vibrate in other than fundamental pitch. I am only surprised that others have not noted this discrepancy in the old theories.

The human ear has to a great extent the capacity to isolate the music of any instrument in the orchestra or any voice in the chorus, depending merely upon a selection by the mind, though conductors attain by training a wonderful capacity for following the tones of many instruments at the same time. I am of opinion that neither the ossicles nor the drum as a whole could vibrate to so great a multiplicity of sound-waves at the same time, but a membrane such as the drum, vibrating in segments, and the air of the tympanum and the fluids of the labyrinth could so vibrate, and the inner drum being in direct contact with the fluids, and so very flexible, would be sensitive to every impulse.

REPORT OF A CASE OF SEVERE HEMORRHAGE FOLLOWING PARACENTESIS OF THE DRUM MEMBRANE.

BY JAMES F. M'KERNON, M.D., NEW YORK.

Aural Surgeon to the New York Eye and Ear Infirmary.

As it is so unusual for anything like an active or severe hemorrhage following an opening of the tympanic membrane by the surgeon, I deem it of sufficient importance to report this case.

M. T., a girl aged thirteen years, native of the United States, came to my clinic at the Infirmary, June 7, 1897, complaining of pain in the right ear and giving the following history:

She had always been well, as far as she knew, until 3 o'clock the afternoon before, when she suddenly became conscious of a severe pain in the right ear, after jumping the rope with other children continuously for about half an hour.

This pain continued during the night, preventing her from sleeping, and the usual domestic remedies were used by her aunt to stop the pain, namely: sweet oil and laudanum, glycerine, spirits of camphor, oil of cloves, and, finally, camomile tea, which, she said, was the only thing that gave her any relief.

On inspection, she seemed to be a robust, well developed girl for her age. Her temperature was 99°F. and pulse 88. On aural inspection, a small amount of hardened cerumen was seen lying within the meatus. Beyond this could be discerned the drum membrane, presenting a bulging appearance over its anterior superior and anterior inferior quadrants. Also a lesser bulging was noticeable at the posterior inferior quadrant. The color of this bulging portion of the drum was blue and purple-looking. Shrapnell's membrane and the remainder of the tympanic membrane were deeply injected. The ossicles could not be seen. There was no change in color of the canal walls from that of normal.

Thinking I had to deal with a simple case of acute otitis media, the cerumen was gently syringed away with a bichloride solution of $\frac{1}{3000}$. The canal was then sterilized by mopping it with a solution of alcohol, two parts, and bichloride $\frac{1}{1000}$, one part, and an incision made in the most prominent part of the bulging drum, namely, the anterior inferior and the lower half of the anterior superior quadrant. Before the knife could be withdrawn from the speculum there was a gush of bright-colored, arterial-looking blood. The knife and specu-

lum were withdrawn and the blood spurted from the external auditory meatus, covering the child's clothing on that side of the body. It not only ran out of the canal, but spurted directly outward for nearly two feet, saturating both the patient and operator. A pledget of cotton was placed in the canal and carried down to the drum membrane, but the hemorrhage was so active that this was useless as a controlling agent.

By this time the patient was thoroughly frightened and had to be held in the chair. The cotton was removed from the canal and the canal again packed, this time with iodoform gauze, pressed firmly against the drum. This did not seem to have any particular value in stopping the hemorrhage, as it bled profusely through the gauze and through several compresses external to the gauze over the meatus. Seeing that the flow of blood was synchronous with the radial pulse, pressure was made over the common carotid artery of this side and the flow at once began to diminish and stopped altogether in two or three minutes.

Pressure was still kept up, the compresses and gauze removed, and the canal wiped with cotton so as to obtain a view of the drum membrane. This was seen, and at the opening made by the knife, which was about one-third of the distance between the anterior tympanic ring and the tip of the malleus, a small amount of bright blood was seen coming through the opening.

A small strip of iodoform gauze was carried through this opening into the tympanum and packed firmly, pressure being made from above and externally. The canal was also packed with gauze and the pressure gradually removed from the carotid. After a few minutes a slight oozing was perceptible, when pressure was again applied over the carotid, this time for nearly half an hour. At the end of this period pressure was removed and no oozing took place.

She was taken to the ward and placed in bed and a sedative given. She rested but little during the night, complaining of throbbing in the ear, and headache. Slight oozing during the night.

At four o'clock next day the packing from the canal and tympanum was removed, and this was followed by only a slight hemorrhage of bright-colored blood, easily controlled by packing as before.

Temperature normal; slight pain; rested well.

At three o'clock next day, the packing was again removed and there was no hemorrhage whatever. The following day she was discharged from the ward service and came back to the clinic every other day for a week, and later, every fourth day, until the healing in the membrane had taken place. She complained of no pain and the only unpleasant sensation she spoke of was a feeling of fullness

in the ear, and a throbbing at times, particularly upon lying down.

At the time of her discharge, her hearing with the acumeter on the unaffected side was twenty-eight feet; on the affected side, where the hemorrhage took place, she heard at sixteen feet.

The features of special interest here seem to be:

First—The origin of the blood, was it arterial or venous?

Second—Had rupture of any of the intra-tympanic vessels taken place, the result of her too violent exercise in jumping the rope? Or, in performing paracentesis, did the knife pass through and puncture one of the vessels supplying the tympanum?

It would seem that the blood was arterial and not venous, on account of its color, which was bright red, and the fact that it did not come from the canal in a continuous flow, but with a distinct jet or spurt; also this jet from the canal was synchronous with the radial pulse. Again, pressure on the trunk of the common carotid on the affected side stopped the flow of blood almost immediately.

These points taken into consideration would tend to show, I believe, that the hemorrhage was arterial.

Secondly, from the fact that the patient had been free from any aural trouble previously, and that it had developed so suddenly after her very violent exercise, would certainly lead one to suspect that a rupture of one of the vessels supplying the tympanic cavity had taken place, and this seems to me to explain its origin.

The direct source of the blood could not, of course, be ascertained, but it might have taken place from the tympanic branch of the internal maxillary, or the anastomosis, between this and the stylo-mastoid and superficial petrosal from the middle meningeal, or the tympanic branch of the internal carotid.

It does not seem possible that the opening of the drum with the paracentesis knife could have injured any vessel or vessels within, for it was not carried into the tympanum far enough to do harm, unless there was an abnormality present, as the blood started to flow profusely the instant the membrane was punctured.

Dench† reports a case of hemorrhage from the bulb, which took place during the removal of the ossicles, where there was a dehiscence of the bone over the bulb and a curette opened into it. He controlled the hemorrhage by packing with gauze, but four days later thrombosis of the jugular took place, necessitating ligation and resection of the vein. The case made a good recovery. Ludwig*, Hildebrandt†, *et. al.*, also report cases of hemorrhage in this region from the the bulb.

116 West Forty-eighth Street.

†Trans. New York Otological Society, 1898.

*Archiv f. Ohrenheilk, Vol. XXIX, p. 234. †Archiv f. Ohrenheilk, Vol. XXX, p. 183.

REPORT OF A CASE OF CHOLESTEATOMA OF THE MASTOID ANTRUM.*

BY DR. S. L. LEDBETTER, BIRMINGHAM, ALA.

On the 15th of April, 1897, a young German applied to me for treatment. He was strong and hardy, but somewhat worn from recent suffering. He had a chronic suppurative otitis media in the left ear, and for a month or two the suffering had been intense, requiring frequent administrations of morphia to relieve the pain. There had also been some dizziness. On examination I found a copious and offensive discharge, some granulation tissue and exfoliated skin, which I cleared away. This afforded considerable relief to the patient. There was an opening in the upper part of the drum membrane, through which a free flow of pus was maintained. The opening was about one-eighth of an inch in diameter, and, apparently, afforded sufficient drainage. The ear was dressed daily for a couple of weeks. The pain disappeared almost entirely, and the discharge was diminished. Some granulation tissue sprang up in the fenestrum. This was removed with a curette and treated with styptics. The patient went home at the end of two weeks, not well, but practically free from pain, and the condition of the ear apparently much improved. Two weeks later he returned, looking like a ghost of himself, thin, haggard and staggering, so that he had to be supported.

The external auditory canal was filled with what appeared to be a fleshy growth. It was removed with the snare, and proved to be a portion of the skin and periosteal covering of the external auditory canal, pushed forward by granulation tissue. The pain and dizziness were but slightly relieved by the operation, and the discharge was undiminished. I advised the opening of the mastoid, to which the patient readily consented. The operation was done the following day, and a large quantity of dead skin and granulation tissue were removed from the middle ear. A solid mass of exfoliated skin was removed from the antrum. The entrance to the antrum was through a dense, healthy-looking bone, and the mastoid cells did not appear to be involved in the trouble. The patient was practically free from pain after the second day, and when I left the city, two weeks after the operation, he was able to go about the house quite comfortably,

*Read at the meeting of the Southern Section, American Laryngological, Rhinological and Otological Society, Atlanta, Ga., March 28, 1898.

though the discharge still kept up, and there was still some slight dizziness. I left him in charge of competent surgeons. On my return I found that the physicians, whom I had left in charge, had been dismissed in a week or ten days after my departure.

The patient began suffering again, fell into other hands, was operated on again by a general practitioner and died a few hours after the operation.

I do not know what the conditions were which called for another operation, nor do I know the immediate cause of death. I hardly think it likely that there could have been a reaccumulation of the cholesteatoma in so short a time. More likely the inflammation had extended to the cranial cavity, resulting in a meningitis, or a subdural abscess. It is not at all improbable that pus had found its way into the dura before the first operation, and that I had failed to discover it. While the opening was large and the drainage free, the untoward symptoms were in abeyance; but so soon as the opening began to close up the retained pus began again to cause trouble.

I saw several operations last summer which convinced me that, in many cases, sufficient diligence is not exercised in the tracing up of pus channels, and of the possibility of overlooking pus cavities, even in the most carefully performed operations. I saw Dr. Knapp, of New York, do the third operation on a case, finding additional pus centers each time, although he had explored the dura in the first operation.

I made two mistakes in my case. The first, in not operating on the patient when he first came to see me; the second, in not exploring more carefully for extensions of the trouble when I did operate. For, surely, looking backward at the case now, it seems that there were urgent indications for operative procedure from the first; and, with proper treatment, my patient might have been saved, though it is possible the mass had already absorbed away the bony partition, that the dura had already been exposed to the pus, and that conditions had already developed which would have eventually proved fatal. But I do not feel that I can hold myself blameless when I have failed to give the patient the benefit of all doubt.

This was, to me, a very ordinary case in several respects. I have frequently seen the external auditory canal filled with cholesteatomatous mass, coming away, *en masse*, a perfect cast of the canal. But this was the first case in which I have found such a condition existing in the mastoid antrum. The rapidity with which the periosteum and skin were forced away from the bony canal of the external ear, and the canal filled with granulation tissue, was to me phenomi-

nal (two weeks), so much so that I had a microscopic examination made of the tissues removed, thinking that there might be some malignancy about it, but found none. The dizziness, nausea and pain of which the patient complained when he came to see me the second time were the most intense I ever witnessed; but there was at no time tenderness or œdema over the mastoid.

ASEPSIS IN OTOTOLOGY AND LARYNGOLOGY.

BY A. B. MCKEE, M.D., SAN FRANCISCO.

Sometime since I noticed an article in THE LARYNGOSCOPE calling attention to the necessity for the observance of antiseptic precautions in office practice. However, no suggestions were given as to practical methods by which this could be carried out.

The following hints may be found of value:

1. To sterilize cutting instruments, place in $2\frac{1}{2}$ to $5\frac{3}{8}$ carbolic solution 15 or 20 minutes, then dip them, for a few seconds, into boiling water. By means of a pocket alcohol stove, there is no difficulty in preparing, in a few moments, all water necessary for sterilization.
 2. To sterilize tiles, trays or dishes for instruments, pour over them a few drops of alcohol and ignite it. The asepsis is complete.
 3. To sterilize blunt instruments (forceps, tongue spatulæ, etc.), pass them through a spirit lamp, which should be on every instrument table.
 4. To sterilize catheters, antrum canulæ, etc., boil them, for a few moments, in a porcelain-lined dish, such as is used for holding soap or nail brushes.
 5. To sterilize cotton pledgets for wiping out the ear, dip the cotton wound probe into a saturated alcoholic solution of boric acid, ignite it and allow it to burn a few seconds, extinguishing before the cotton is charred.
 6. Needles—preserve in pure lysol.
-

TWO EAR CASES AND THEIR LESSON.

BY JAMES B. TAYLOR, M.D., BLOOMINGTON, ILL.

Each of the following cases has its special lesson; but they unite to enforce a common, broader lesson, and hence are grouped. That general lesson pertains to the all-importance of details and gradations in medicine. Both this general truth and the specific therapeutic points are kept in mind in this report.

Case I. *Showing the value of energy as compared with easy-going methods in massage of the drum for adhesive cases, and suggesting the ground of frequent failures of massage as applied for this affection.*

This history sharply illustrates what we, as physicians, are too prone to forget. That point is that difference in degree of treatment is often of equal importance with difference in kind. After we have settled the matter of *genus*—of broad class of treatment—there comes a still more exacting selection and adaptation of gradations and of particulars.

It is this wise selectiveness and keen-minded adaptation, when we can attain it, which makes our profession an art. It is this which makes the difference between the routinist and machine man—the dangerous holder of an indiscriminated secret—on the one hand, and the successful practitioner in the sense of accomplishing scientific ends, on the other.

We strike a central truth with important bearings when we say that in its proper pursuit and needs there is no calling or business which is so plastic, so adaptive, as medicine.

Fortunate, concrete illustrations (the subject is worth illustrating) are found in the local use of antipyrine or cocaine as an adjunct to inhalations in obstinate laryngeal coughs, in order to hold the parts until we get the effect of the nebulized treatment, the whole outcome of the handling turning upon this single point; or in the cutting of suitable slots in the delivery tube for formaldehyde gas in using the same, fresh generated, for the cure of a long-standing ear suppuration which has resisted ordinary methods, the slots admitting the requisite amount of fresh air to dilute the gas and bring down the temperature to usable state; or, lastly, in making the use of resorcine sweeping and heroic against fermentation in digestive tract, if ordinary and standard use of it has not attained our ends. The alert, adaptive general practitioner—the man who uses his agents as a fencer uses his

sword—would that his number were greater!—of course, illustrates our point in a multitude of ways.

Miss R. came for treatment July, 1896, with the following ear record on test: Right ear, watch, no hearing; fork, one inch. Left ear, watch, one inch; fork, two inches. Combined ears, medium conversation, two feet.

The history was one of progressive neglected middle-ear catarrh of dry and adhesive variety and of two years' standing. Patient was put upon routine treatment of resolvent inhalations and moderate inflations; also, counterstimulation behind ear. General health likewise cared for and improved.

This handling resulted in bringing hearing up in about two months to practically double its first record; fork, for left ear, being made four and one-half; watch, two; fork, for right ear, three, but watch still *nil*. For vocal tones, a somewhat greater gain.

Here we stuck fast. Persistent attention for months (patient was near office, and case was financially adjusted for a long campaign) gave no further advance, though improvement already gained was held successfully. The whole gamut of ordinary devices (including somewhat active dilatation of Eustachian tubes and average massage) was run with no better results.

At this stage, some eight months from beginning of treatment, decision was reached to give the lady a wide range of liberty in treating herself as regards amount of massage, and to watch the outcome. It is a pity that this decision had not been reached six months sooner. Patient being at this time an adept in use of apparatus for herself, soon ran the number of massage impulses per day up to seventy-five, and sometimes double this number, and then a change came. The repeated aërial hammer-strokes from within outward, from the condensing chamber of a Globe multi-nebulizer, had prompt effect in giving us what moderate, and we may call standard, treatment had not accomplished. In less than two months the record rose to: Right ear, watch, four inches; fork, five inches. Left ear, watch, twenty-six inches; fork, fourteen inches. Combined ears, forced whisper, fifteen feet.

Any symptoms of reaction were watched for, and on the few occasions when tenderness developed, the activity of treatment was lessened for a day or two. Evidently the radical massage had done for the ear just what manipulation does for the stiffened and partly ankylosed elbow joint. The effects in each case are both mechanical and absorptive; and as the procedure is rational for the elbow, it is rational and physiological for the ear. The results were so permanent in our patient's case that she went successfully into a

mercantile clerkship, and sustains herself there after months of trial.

If we survey the otological field, it is beyond question that systematic massage marks the greatest advance in these lines for the past ten years, its best achievements being within the last five years. And certainly restoration of the function of an organ is, *pro tanto*, as compared with any other work we can do for it, the highest and most brilliant result we can achieve. Jankau has reported some striking results. The elaborateness of treatment, number of massage—impulses, recommended by him, corresponds in a broad way with the experience and teaching of our case—and other similar ones not cited. The force of Jankau's apparatus, however, is evident by less than that used and demanded in the case of Miss R. Just here let us say, with reference to the use of considerable force in the ear (for selected cases and after milder methods have been excluded by trial or previous experience), that the consensus of opinion and up-to-day practice is toward greater boldness in this direction. This is in entire keeping with the nature of the onward movement of general surgery. A summary of the history in both the general and the special fields is greater freedom with more careful methods. Overthrow of the idols of fear in many directions, coupled with greater confidence in natural methods in yet other quarters, is the characteristic of the time. Both positive truths are growing upon us.

As to methods of procedure for such cases as that of Miss R. here cited, experience has emphasized the following points for the writer:

First—Propulsion massage—massage from within—is much preferable to external or suction massage, because (a) it avoids soreness and the frequent furuncles of external canal caused by pressure of suction apparatus tightly adjusted; (b) it opens the Eustachian tubes much better than the rarefaction of so small an amount of air as found in the tympanic cavity; (c) the impulses from, for example, a Globe nebulizer, furnished with its stop-valve, and giving rapid, shot-like discharges, are much more efficient than the pulls produced by a suction apparatus; also more effective than the impulses from any hand-bag apparatus for internal massage; and (d) with such apparatus for internal massage as that placed in hands of Miss R., whether Eustachian catheter be called for or not, majority of intelligent patients may be taught to administer their own treatments under the physician's supervision. This is a very practical point for the saving of time when seventy-five to one hundred and fifty applications are made per day, rendering possible for a busy practitioner what could not otherwise well be reached.

Second—Comparing the use of active (it may be forcible) internal massage with the process of incision of drum-head and employ-

ment of hook for loosening adhesions, massage is in the rule decidedly to be preferred, since it looks to progressive tissue metamorphosis along with mechanical alteration, while the use of the hook, limited usually to a single application, brings results which are almost exclusively mechanical. In extreme cases a combination of the processes may be called for, and has been found useful by the writer.

The second case, possessing, as we think, some intrinsic interest for itself and contributing to enforce the great importance of details—how that small things are often the turning point—is as follows:

Case II. *Showing the serious effects of a very small patch of mould in the tympanum, and relief following its detection, identification by microscope, and easy extermination when its character was determined.*

Mrs. H., living in another State, had for years been troubled with deafening *tinnitus* of left ear. Was attacked from time to time with serious dizziness. Felt deplorably nervous. Life had become a burden. Various washes had been tried without success. Consultations in which the unusual and minute cause had not been detected, had been fruitlessly held, until the party had wholly lost her courage and hope. Inspection showed as follows: External canal normal, its epithelial cells being quite intact; anterior lower third of drum-head gone, from some early suppuration, now forgotten by patient; drum-cavity dry; on its inner wall, partly covered by remaining part of membrane, a small, white, velvet-like area, suggestive of the vegetable mold *aspergillus glaucus*. A small bit having been removed, the microscope confirmed the diagnosis; and a lotion of hyposulphite of soda, followed by a germicidal powder, relieved the case permanently in a few days.

Here was a small grain-field, as it were, of this vegetable parasite hidden away in the drum-cavity, the tiny plant lifting its stalks and showering down its spores from their heads, the processes of growth and reproduction in the mucous membrane giving the series of distressing experiences from which the patient suffered.

Can there be a better illustration of the minute things which are constantly facing the medical practitioner with very serious and often crucial importance attached to them? It is not too much to say that for scientific success (we are not speaking of commercial success or of gulling the people) no other profession calls for such incessant vigilance and such painstaking, delicate, carefully made discriminations.

This is the demand which is made upon us, and before which all of us fall down too often.

NEW INSTRUMENTS.

NEW CURETTES AND AN INSTRUMENT FOR THE REDUCTION OF HYPERTROPHY OF THE POSTERIOR END OF THE INFERIOR TURBINATED.

BY LEWIS A. COFFIN, M.D.

Assistant Surgeon, Throat Department, Manhattan Eye and Ear Hospital, New York.

Fig. 1 represents an instrument for curetting the naso-pharynx. This instrument will do all the work in the vault of the pharynx that can be accomplished with any other curette and has these advantages:



FIG. 1.

First—It is a light, well-balanced and slightly instrument.

Second—It can be used with aid of mirror; or,

Third—Can be used under end of index finger acting as guide.

Fourth—It can be used to curette the various fossæ of the naso-pharynx; and,

Fifth—It will clear the adenoid tissue from the base of the sphenoid better than any instrument it has been my fortune to use.



FIG. 2.

To remove tissue from the base of sphenoid and well up against septum, a palate retractor should be used, when, with the aid of a mirror or finger, the curette should be placed in front of the growth and pushed directly back toward the posterior wall of pharynx, after which a scraping motion should be used.

In chronic catarrhal naso-pharyngitis, I have gotten most satisfactory results by lightly curetting the membrane previous to using one of Mandell's solutions or some modification of same.

Fig. 2 represents a curette, in every way like that represented by Fig. 1, except in curve of shank. It is designed for use in the oropharynx and can be used up or down over a greater surface, I think, than any other instrument. It is especially useful in treatment of chronic follicular pharyngitis.



FIG. 3.

Fig. 3 represents an instrument for the reduction of posterior hypertrophies of the inferior turbinates.

It consists of a curved canula, which can be attached to an ordinary hypodermic syringe, and to which needles of various lengths and curves can be attached.

In the cut it is shown attached to a syringe, having finger rings on needle end of syringe for purpose of holding instrument firm and steady.

Loading syringe with monochloracetic acid and adjusting control screw on piston, so that not more than one or two drops can be ejected, the needle should be inserted into the growth, using palate retractor and mirror, and the injection made. This is a safe procedure and one sure to produce desired results.

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EDITORIAL.

WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION.

The meeting of the Western Ophthalmologic and Oto-Laryngologic Association, held in Chicago, April 7 and 8, was an unqualified success. From the opening address to the time of adjournment the interest of all in attendance was unflagging. The character of the papers presented, and the activity and energy of the discussions contributed much to the scientific success of the meeting.

One of the most practical factors of the organization was the division into two sections, one the ophthalmologic, the other the oto-

laryngologic. This facilitated an excellent distribution of work and papers, and carried out to a practical issue the modern idea of separating ophthalmology from its former associates, otology, rhinology and laryngology.

An audience of over one hundred of the prominent special workers greeted Dr. Herman Knapp, of New York, when he opened the scientific programme by his excellent discourse on "Mastoiditis and a New Radical Operation," given by special invitation.

One of the agreeable features of an organization of this character is the meeting of co-workers in different sections of the country whose acquaintance has been enjoyed by letter and by reputation for years, and with whom personal contact contributes much toward the enjoyment of the meeting.

There seems to be a prevalent idea in the minds of many of our special confreres that activity in special medical societies should be considered as a loss of time and energy to the participants. It requires attendance at but a single meeting of a character of the Chicago conclave to convince our skeptical and somewhat narrow-minded fellows of the fallacy of such conclusions. It was the general sentiment expressed that attendance at this meeting amply repaid every sacrifice of time and energy which the members had made.

It was the consensus of opinion that the Association had demonstrated its right to existence, and that it was the duty of every eligible member of the profession, from the Alleghenies to the Pacific, to lend his personal support and active interest to the Western Ophthalmologic and Oto-Laryngologic Association.

We should also take this occasion to express the thanks and appreciation of the visiting members to their Chicago associates for the royal welcome which was extended, and the uniformly courteous reception which made every moment of our stay a pleasure.

It was decided to hold the next annual meeting in New Orleans, two days prior to the opening of the spring festivities. Dr. Scheppegrell, First Vice-President and Chairman of the Committee of Arrangements, assures the Association that every effort will be made to make the fourth annual meeting a memorable one.

The officers elected are: President, J. Elliott Colburn, Chicago; First Vice-President, W. Scheppegrell, New Orleans; Second Vice-President, Casey A. Wood, Chicago; Third Vice-President, H. Gifford, Omaha; Treasurer, W. L. Dayton, Lincoln, Neb.; Secretary, Frank M. Rumbold, St. Louis. Twenty-seven new members were elected.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

A STATED MEETING OF THE SECTION ON LARYNGOLOGY AND
RHINOLOGY,

Held in Hosack Hall, on Thursday evening, March 3, at 8:15 o'clock.

Dr. Jonathan Wright, Chairman;

Dr. Thos. J. Harris, Secretary.

Intubation in Diphtheria.

Dr. William K. Simpson read a paper on this subject. It can be said with truth that the advent of intubation for the relief of diphtheritic croup has undoubtedly marked one of the greatest advances of modern medicine, and, in connection with the present antitoxin treatment, has most materially lessened the mortality and robbed of its horrors one of our most fatal diseases.

Notwithstanding that a certain percentage of cases of tracheotomy under the most favorable conditions recovered, the horrors and difficulties incident to operation in young children, the added surgical wound, with the chances of increased infection, the skilled and laborious attention necessary in the after-treatment, and, above all, the great fatality, caused an abhorrence alike on the part of both parent and physician to the extent that the latter gladly delayed surgical interference as long as possible. The speaker thought that this delay was greatly accountable for the fatality attending its performance, for it was a brave surgeon who would tracheotomize in the earliest stages of laryngeal croup.

The real battle of intubation was waged and its glories won before the days of antitoxin, and had the percentage of recoveries been even less than that furnished by tracheotomy, it must not be forgotten that the simpler nature of intubation permitted its performance in hundreds of instances in which either the parents or physician would have objected to or even refused tracheotomy; thus in intubation was furnished an opportunity of at least attempting to save life, which would have been forever denied through tracheotomy.

The question of when to operate is always of vital importance, and especially so if for any reason antitoxin is not employed. According to the report of the American Pediatric Society, sixty per cent of the cases of laryngeal diphtheria would not require intubation if reliable

antitoxin be used in the early stage of the disease. The croupy symptoms should be carefully watched, remembering that it may take twenty-four hours for a full effect of the antitoxin to be manifested. The initial dose of antitoxin should be a full one, and if, in the interval, while waiting for the antitoxin effect, symptoms of stenosis are progressive, intubation should be immediately performed; *never*, in any instance, is it justifiable to await the approach of the severer symptoms of stenosis.

How long shall the tube remain in the larynx? In pre-antitoxin days the average period was from six to seven days. Under the present mode of combined treatment the time may be somewhat shorter, varying from three to five days. Personally, in private practice, he preferred to leave the tube in the larynx during five full days if there were no indications for removing it, on the general principle of avoiding unnecessary reintroductions.

The principal indications for the removal of the tube previous to its final removal are severe discomfort or pain from pressure, especially if the pain be radiating in character, thus indicating the occurrence of ulceration, and severe attacks of coughing as well as sudden stenosis, due to the lodgement of membrane in the lumen of the tube. This last condition is, perhaps, more likely to arise earlier under the antitoxin treatment on account of the earlier exfoliation of the membrane. Sometimes, under these circumstances, the reintroduction of the tube may not be necessary. In a small percentage of cases intubation, after the original course of the stenosis has ceased to be present, there occurs a more or less permanent stenosis, necessitating almost constant use of the tube for a period of a few days to some months. These cases are classed under the head of "Retained Intubation Tubes." Dr. O'Dwyer, in giving the cause and seat of this permanent stenosis, says: (1) "The cause of persistent stenosis, following intubation in laryngeal diphtheria, can be summed up in a single word—traumatism. Paralysis of the vocal cords may possibly furnish an occasional exception to the rule. (2) The injury to the larynx is done by a tube which does not fit. It may result either from an imperfectly constructed tube, or from a perfect one which is too large for the lumen of the larynx, although suitable to the age of the child, or from a tube that is perfect in fit and make if it is not cleaned at proper intervals. (3) The *seat* of the lesion which keeps up the stenosis is just below the vocal cords in the subglottic division of the larynx, or that portion bounded by the cricoid cartilage. Exceptions to this rule result from injury produced by the head of the tube on either side of the base of the epiglottis just above the ventricular

bands." Dr. O'Dwyer sums up the avoidance of its occurrence and its treatment when present: In a full appreciation of its causes and the skillful use of tubes of a proper size, shape and construction, and the use of the hard rubber tube now in vogue, which can be worn indefinitely without the occurrence of the calcareous granules which appear on the metal tubes, and which may become a focus of ulceration; further, the rubber tubes at their impinging points do not produce the same degree of pressure as the metal tubes.

The speaker then went into the technique of the operation. One of the most important points in the technique of the operation is that twisting of the neck of the patient should be guarded against, and keeping everything in the median line; this cannot be too strongly emphasized, as it especially pertains to the successful introduction of the tube.

Successful introduction of the tube is almost immediately rewarded by relief from the difficult breathing. The means of knowing that the tube is properly introduced into the larynx are, first, the relief in breathing, and, second, the characteristic cough which immediately occurs, and is of a moist metallic character, produced by mucus and air passing through a metallic tube. This cough should always be looked for, and if it is not present should be provoked by giving a teaspoonful of diluted whisky or brandy. Another way of determining whether or not the tube is in the larynx is by passing the left index finger down into the œsophagus and feeling the tube through the anterior wall of the former. After the introduction of the tube, if the breathing is not relieved, or becomes worse, the question of having pushed down with the tube some detached membrane is to be considered. This occurrence is infrequent, because the stenosis is not entirely due to a complete cast of the larynx and trachea through which the tube has to pass, but to lessened lumen of the larynx by infiltration of the submucous tissue.

This accident is more likely to occur in late cases of croup, in which the membrane has begun to exfoliate. If for this or any other reason the breathing is not relieved, the tube should be withdrawn by the string and the child encouraged to cough, after which an attempt at a second introduction should be made. Another accident which may occur is the introduction of the end of the tube into one of the ventricles of the larynx. This is obviated by using the present type of tubes, somewhat bulging on the end, which permits it to override the ventricles, and by keeping in the median line during operation. Introduction of the tube into the œsophagus will sometimes occur. This can be appreciated by failure to relieve the diffi-

cult breathing, and by attempts at swallowing on the part of the patient. If the tube does pass into the œsophagus, it is usually expelled by way of the rectum in the course of two to five days. Never attempt to remove the string without making pressure on the head of the tube, as the string becomes twisted in the mouth and will be caught in the eyelet of the tube and the latter itself withdrawn, unless counter-pressure be made.

The operation for the extraction of the tube is perhaps more difficult than of introduction, as it requires a finer degree of touch in the finger to determine the opening in the tube; this difficulty is increased in proportion to the smallness of the tube. Another way of getting rid of the tube is to slightly invert the patient, and, with mouth open, placing the thumb in the episternal notch and pushing the tube up in the mouth and grasping it with the finger of the other hand or with a pair of ordinary forceps. After removal of the tube the patient should not be left until there is sufficient evidence that the tube will not have to be replaced. A small dose of opium may be given to allay the cough and irritation.

Feeding after intubation is best accomplished by having the child in an inclined position, the head being down. This is commonly called the "Casselberry" method. It is best performed by raising the foot of the bed, removing the pillow, and bringing the child to the edge of the bed on the side, and using, for the purpose of feeding, an ordinary duck-shaped feeding cup. The speaker thought it a good practice to keep the child in the feeding position during the entire period in which the tube remains in the larynx, in order to lessen the chances of secretions passing down the tube and thus causing the possible development of pneumonia. The food should be fluid or semi-solid.

The respirations should be watched during the entire progress of the disease; if they continue about normal, it is indicative of favorable progress; if they show a tendency to increased rapidity, it is indicative of extension of the membrane.

The prognosis of diphtheria under the present combined treatment, he thought, remarkably favorable. The collective investigations of the American Pediatric Society gives a mortality in cases operated upon by intubation, and in which, as well, antitoxin was administered, as 27.24 per cent. This was in strong contrast to the previous mortality which ranged from 69.5 per cent to 75 per cent.

Intubation in Chronic Stenosis.

Dr. D. Bryson Delavan read this paper. He said that Dr. O'Dwyer had not only invented but had perfected his art. The de-

velopments of intubation could best be studied from O'Dwyer's own writings. Notwithstanding the good work of many others, it was true that almost all of the important suggestions connected with it had been forestalled by him. This was particularly true with regard to intubation in chronic laryngeal stenosis. No greater contribution to surgery than the article published by O'Dwyer in 1886 has been given to the profession, which was entitled "Chronic Stenosis of the Larynx, treated by a new method, with Report of Cases." Up to 1896, about 100 cases had been reported. Most of them, in which O'Dwyer's method had been applied to the relief of chronic stenosis of the larynx, had been entirely successful. In a few instances, in which complete success had not been obtained, it was evidently due to failure on the part of the operator to understand the method, or else to a faulty application of the same.

O'Dwyer stated that cases in which intubation was effective were as follows:

1. Cicatricial stenosis due to injuries to the soft parts of the larynx.
2. Narrowing of the space above and below the cords by simple tuberculous or syphilitic inflammation.
3. In cases in which tracheotomy had been performed, and in which the tracheal canula having been worn for a considerable time, the upper part of the trachea had become filled with granulations.
4. In a fair proportion of cases of papilloma of the larynx; here the operation appeared to be less brilliant.
5. Where there was the condition known as "web" of the larynx.
6. In ankylosis of the cricoarytenoid articulations, as in arthritis deformans of the same.
7. In various affections of the nerves of the larynx, as in bilateral paralysis of abduction.
8. In deformities of the larynx from injuries to, or diseases of its cartilaginous framework.

In these cases he found that intubation acted as follows:

1. It relieved the urgent dyspnœa.
2. It promoted absorption by pressure.
3. It stretched contracted tissue and cicatricial bands and adhesions.
4. It caused forced motion of ankylosed articulations.
5. In cases of paralysis it brought about a separation of the vocal bands for a sufficient length of time to overcome the difficulty or admit of its treatment.

In 1892, the speaker said, Dr. O'Dwyer had made the statement

that in chronic cases intubation could be performed with greater ease by the aid of a laryngeal mirror.

The speaker related a case in which urgent dyspnœa had come on during labor in a patient suffering from stenosis of the larynx, due to tuberculous thickening of its interior. The prompt insertion of an O'Dwyer tube saved the patient's life and that of her child.

Intubation for Acute Stenosis.

Dr. Charles H. Knight read this paper. He said that the brilliant results of intubation in diphtheria had almost obscured the usefulness of the procedure in other cases of acute stenosis. Scarification was not always sufficient for the relief of œdema of the glottis. Here intubation seemed to be the ideal operation, but for one thing, *i.e.*, the area of œdema might be so extensive as to overhang and obstruct one or the other orifice of the tube. As is well known, the upper part of the air tract (larynx) was most affected by œdema, and this portion was most accessible to the knife.

One authority has expressed his determination to perform intubation in the future in the following conditions:

1. Spasm of the glottis from any cause.
2. In bad cases of laryngismus in infants.
3. Whenever the presence of a foreign body in the trachea is suspected.

In cases of wounds, injuries or fractures of the larynx, obstruction to breathing might follow in consequence of the formation of a hæmatoma, or of emphysema, or because of the protrusion of a piece of tissue or fragment of cartilage into the upper air tract. Laryngismus stridulus usually yields to general or local medication, so that the question of surgical intervention seldom arose. The number of recorded cases with a fatal termination did not exceed six or eight, but sometimes the distress and urgency were so great as to seem to justify such a simple procedure as intubation. Personally, he had used it in but one case of spasm of the larynx, occurring in a middle-aged lady a few months after the removal of a thyroid tumor. Her attacks of dyspnœa became so frequent and alarming that intubation was performed. It gave relief, but she objected so much to the loss of voice that she insisted upon tracheotomy. This was done and she is still wearing the tracheotomy tube.

DISCUSSION.

Dr. H. W. Berg said that every one who sees a large number of acute cases of laryngeal dyspnœa, particularly those complicating diphtheria, will remember, as the reader of one of the papers re-

marked, that occasionally cases occur in which the tube, after having been in for four, five or six days and then removed, must be reinserted, and this procedure may have to be repeated several times on account of the recurrence of the extreme dyspnœa. The dyspnœa may cover a period of weeks and months, and the speaker had seen a case where more than a year had elapsed and still the patient could not get along without the laryngeal tube.

He said he had seen several of these cases in hospital and one in private practice, and two of them he had had the good fortune of having Dr. O'Dwyer see with him. One of these Dr. O'Dwyer had taken under his special care, and although he had hoped it would be relieved by the methods he adopted in the treatment of the case, still the tube had to be worn for many months. Dr. O'Dwyer, in his paper, which was referred to by one of the speakers, said that the long-continued dyspnœa was chiefly due to cicatricial contraction or to adhesions produced by ulcerations along the lower edge of the tube, about the level of the upper border of the cricoid cartilage. This, undoubtedly, was the true explanation in some instances, because, in some cases, in trying to reinsert the tube, some difficulty was experienced in pushing it home. There were a number of other cases, however, in which the above explanation would not suffice. The speaker had seen cases in which there was no difficulty in reinserting the tube, even after it had been left out for some time. He thought that the dyspnœa, in such cases, was dependent upon the effects of the pressure of the tube against the vocal cords. Dr. O'Dwyer thought that this pressure could not possibly produce paralysis of the vocal cords, and he ascribed it to post-diphtheritic paralysis. This theory was hardly tenable, however, because in those cases we never get sudden dyspnœa due to paralysis of the vocal cords. A local paralysis, limited to the vocal cords, can hardly be ascribed to post-diphtheritic paralysis, although it was a possibility.

The treatment adopted by Dr. O'Dwyer, in one case, was to remove the tube daily and to leave it out as long as he could, and then to replace it with a smaller one, if possible. That treatment did not seem to be effective, and in some instances where a smaller tube was inserted, the patient coughed it up.

The speaker felt that cases of this kind, in spite of the brilliant paper of Dr. O'Dwyer on the subject, were still to be explained. We do not know their pathology or proper treatment, and he thought it would be a great achievement if the Laryngological Section could succeed in clearing up that portion of the subject.

Dr. William K. Simpson closed the discussion by saying that in

explanation of the class of cases mentioned by Dr. Berg, where the tube must be constantly worn for a long time, he thought that Dr. O'Dwyer in his paper states that the stenosis was possibly due to a disappearance of the cricoid cartilage. In one such case that had come under Dr. O'Dwyer's observation, the child finally died and at the autopsy it was found that there was an entire loss of the cricoid cartilage.

The other points brought up by Dr. Berg he thought had been thoroughly discussed by Dr. O'Dwyer, especially the stenosis in the sub-corneal space. He thought, with the others, that the subject was one well worthy of study by all of them.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, held on March 23, 1898.

Dr. Robert C. Myles presented three wet specimens of nasal septa, one demonstrating the Gleason U-operation which had been improperly performed. The other specimen was of a deflection almost entirely confined to the triangular cartilage—the condition in which the Gleason operation was especially appropriate. The third specimen was simply a septum which had rather a small triangular cartilage and a very extensive perpendicular plate of the vomer.

Dr. Thomas J. Harris: I desire to present a case which many of the gentlemen here had an opportunity to see two years ago. The history in brief is as follows: The patient is an Italian, thirty-five or thirty-six years of age, who came into my service at the Post-Graduate Hospital with a history of persistent nose-bleed. Examination revealed a mass of tissue filling up the left nares. This growth was removed by means of the Boeckel operation—the nose being thrown to one side—and proved to be a round-celled sarcoma. The patient made a rapid and favorable recovery and left the hospital in seven or eight days. There was no recurrence of the growth for sixteen months. At the end of sixteen months the growth returned. He was again placed in the hospital and was given a course of Coley's lymph. The former operation was repeated, sawing through the nasal bone, and, without much hemorrhage, took out the growth, which filled the ethmoidal cells. I discovered no disease in the sphenoidal sinus. He then again was given Coley's lymph. One year and a half later the growth again recurred and I found it was necessary to have a more thorough operation performed. He was placed in the hospital and Dr. B. F. Curtis undertook what promised to be a very radical and unencouraging operation. He found, however, the bone itself was affected anteriorly, and by taking

away the diseased nasal bone he was able to get access to the growth. The growth extended into the ethmoidal sinuses and also into the frontal sinuses. Following the operation there was no shock or hemorrhage at all. The patient made as thorough and speedy a recovery as in the first operation. This was done last November. There was no attempt to do a plastic operation. Direct inspection to the sinuses can now be easily obtained and the reappearance of the growth watched, and with a curette can be cut out. The exposure in the region of the superior and middle meatus is the best I have ever seen. One can see the sphenoidal sinus, the inner wall of the orbit, the opening into the frontal sinus, etc. It was doubtful at first whether the eye would be retained, on account of the destruction of the inner wall, but the tissues have re-formed in a most excellent degree.

Dr. Robert C. Myles: Two or three years ago I reported a case similar to this one. I think I showed the case. It was one of sarcoma of the antrum. The patient was a lawyer. Dr. Wyeth made a complete removal of the right superior maxilla. The man now is practicing law and there is no manifestation of recurrence. Dr. Prudden made the microscopical diagnosis; it had all the physical characters of the disease.

The Chairman, Dr. Wright: Sarcoma of the nose and throat is certainly a curious sort of disease. The majority of them, of course, are fatal, but occasionally these cases are, like the one reported by Dr. Bosworth, as existing in the pharynx for many years. The continued removal of the growth from the surface of the posterior pharyngeal wall resulted in ultimate cure. Now, of course, such operations do not cut out all of the growth. Of course, we have not seen the patient before the operation, and Dr. Harris assures us it was all taken out. It seems to me that working through a hole the size of this incision, with every part of the ethmoid cells in sight, the operation should have been a very complete one and yet a certain skepticism may be allowed as to whether all of the morbid growth was removed.

Deviation of the Nasal Septum.

Dr. Robert C. Myles continued the discussion on this paper. (Discussion adjourned from the previous meeting.)

I will say but little concerning the etiology of deviated septa. Delavan, Roe and others have gone rather deeply and extensively into the subject. My observation has furnished me frequently with positive evidence that deviated septa are due to force having been applied to the external nose. I have read and entertained many in-

ductive and seductive arguments sustaining the theory that deviations were caused by the development and formative changes of the bones of the head; these deductions when carefully analyzed have been lacking in scientific and substantiating facts.

To select the best procedure for remedying deviated septa, and the pathological conditions caused thereby, has been one of the most tangled problems in rhinology. Steele published in the *St. Louis Medical Courier* a description of a procedure which has been elaborated by subsequent workers; that is the crucial incision of the cartilaginous septum, breaking the cartilage and the vomer, and the use of substances to hold the parts in proper position until union takes place. Steele advocated a double crucial incision, making eight segments, but on account of the want of forceable and continued advocacy, and the many failures attending the attempts to perform the operation, the procedure was abandoned by nearly all operators until 1890, when Dr. J. Morris Asch performed it with modifications, additions and inventions of instruments. He has placed it among the most reliable, scientific and creditable operations of modern rhinology.

Bosworth has done much for the relief of nasal stenosis caused by deviations of the septa and concomitant thickening, by his able and forceable advocacy of removal of the thickened convex side. Roe has invented many valuable instruments and has accomplished much by his original work upon the septum, but few have been able to grasp and attain the high technical skill necessary for performing his many modifications of septal incision. Gleason in 1896 devised a skillful and unique operation upon the nasal septum, to be performed without ether and under cocaine anæsthesia. It consists of a crescentic or U-shaped incision of the cartilaginous septum, and in some cases the incision should extend into the bony part. In certain patients, where the deflection is confined to the cartilaginous part of the septum, and there is a condition or extreme deflection, this operation is to be specially commended on account of the readiness and ease with which it is performed. Where I have been careful in the selection of cases, I have secured most satisfactory results, with a minimum amount of annoyance to the patient.

It was an early recognized fact that the chief desideratum was to overcome the elastic and resilient tendency of the cartilage, and that this could only be done in certain cases by incision of the central parts and more or less complete dislocation of the cartilage from its bony articulation, the complete success of the operation depending upon how effectively these conditions can be obtained, and upon

proper maintenance of the parts in the position in which they are desired to remain ultimately. Since we have become cognizant of the latent elasticity of the cartilage, we are enabled to eliminate this deleterious factor by keeping the supports in position for six weeks or two months. Dozens of operations, which consist of some form of incision of the septum, have been described and urged by different operators, and each will accomplish curative results in a limited number of selected cases. I do not believe in confining oneself to any particular procedure. In those cases where the vomer and the perpendicular plate of the ethmoid and the triangular cartilage all are deviated, so as to touch the outer wall, the improved Asch operation is the best and only one which will be followed by approximately perfect results, save in cases resulting in perforation.

With a careful analysis of each class of septal cases (and there are hundreds of varieties), and with the knowledge we have obtained from Adams, Steele, Asch, Gleason, Bosworth and other able advocates, we will soon be able to say that in the department of operations for the septal deviations in the lexicon of rhinology there is no such word as fail.

Dr. Freudenthal: I would like to make a few remarks in regard to an ice-bag which I used effectively in hemorrhage. I have not observed severe bleeding after operations upon deflected septum but have experienced bleedings which lasted for several hours. I refer to an appliance which I recommend and which is a nasal-bag, an account of which I published a few years ago. This has helped me a great deal, but does not seem to be known generally. This bag is filled with ice and can be fastened around the patient's head. If the patient is in the sitting position we can operate just as well. In case of severe hemorrhage we can plug the anterior and posterior nares. This nasal ice-bag is a great help in stopping and preventing a bleeding. Two months ago I did an Asch operation, and when finished a colleague wondered if I had cut through the cartilage, as there were only two or three drops of blood lost. I recommend this simple instrument highly. I generally place it on the nose when the assistant commences the anæsthesia.

Dr. Quinlan said that whilst Dr. Myles' review of the history of improvements made by various men in the technique of the operation for deflections, deviations and spurs of the nasal septum, the speaker had failed to give due credit to Dr. Goodwillie for his valuable nasal intubator. He (Goodwillie) was probably the first operator who had devised such an ingenious instrument for maintaining the septum in the upright position after operations. Asch's method, how-

ever, seemed an ideal one, as the resiliency of the cartilaginous septum was weakened and the subsequent treatment by the splints of Mayer, held the vertical plane in the upright position until healing had taken place. During the past months (he) Dr. Quinlan has performed the Asch operation with the most gratifying results. The latter-day aspirants had failed to substantiate, as the methods of Asch had been tried and found true. Dr. Quinlan was satisfied that it was not the operation that had failed, but in many instances it was the operator.

Dr. William K. Simpson thought that as we gained additional experience with the Asch operation there were certain points that should be borne in mind, especially the one that Dr. Myles brought up, viz., that we should avoid any preliminary sawing operation until after the Asch operation, as by means of the tube a certain amount of absorption of redundant tissue takes place. The speaker emphasized the importance of knowing that the tube was in position on the floor of the nose. He had had two or three experiences where the main deviation had been high up, and, later, a second deflection was found low down. The tube was placed in after the main angle was broken, but instead of resting on the floor of the nose it rested on a ledge of tissue. This necessitated a secondary operation for removal of this ledge, the ledge forming a false floor of the nose. One can always tell by the direction of the tube if it is in the proper place. If it is straight and parallel with the plane of the septum it rests on the floor of the nose. An angle pointing toward the septum would indicate that the tube was not on the floor of the nose. Isolated pressure may be maintained by the use of Bernay's sponges at times where the tube cannot be used. These sponges swell from the absorption of moisture. He knew of nothing that could control post-operative hemorrhage like the presence of these sponges.

Dr. McKernon spoke of a case of secondary hemorrhage following the Asch operation which nearly resulted in death. The patient was well nourished, robust, and the ordinary Asch incision was made, and in addition to crushing up the cartilaginous septum, the bony septum, which was deviated, was also crushed and brought to the median line. There was no marked hemorrhage at the time, but four hours afterward there was bleeding from the mouth. Blood flowed through the posterior nares freely, but there was very little through the anterior nares on account of the pressure produced by the tube. The speaker removed the tube and tried to locate the hemorrhage, and he found it was coming from the posterior portion of the bony

septum, probably from the groove where the nasal artery passes through. He packed with iodoform gauze, but this did not control the hemorrhage at all. At the end of another half hour he removed this and packed again posteriorly; also the anterior nares were packed. This did not control the hemorrhage but a short time. He then left the case (during the interval while the hemorrhage had ceased) but was sent for in half an hour and found the patient in a state of collapse. He then did a transfusion with a normal salt solution, at a temperature of 106° F., which brought the pulse up. He removed the packings, both posteriorly and anteriorly, and irrigated with peroxide of hydrogen solution with good results. Finally he took a piece of iodoform gauze and made it the shape of a cone and stuffed it full of cotton wool and packed it in, pulling it down posteriorly, so packing it completely and controlling the hemorrhage. The hemorrhage was controlled but the patient was in a state of collapse and transfusion was done for the second time. The patient made a good recovery. He stated he believed it unsafe to break up the bony septum with the forceps.

In regard to the tube employed, he thought it was best to use a hollow tube, in order to give the patient a chance to breathe through it, and one without perforations, as these were easier to keep clean.

Dr. O. B. Douglas said he would like to have discussed the question, When does a deflected septum require operation? Some surgeons operate when there exists but a slight deflection, while others will operate only when there is an entire occlusion of the nostril. What degree of deviation necessitates an operation?

Dr. McKernon asked whether the previous speaker referred to the bony or the cartilaginous septum.

Dr. Douglas replied that he referred to any deflection which required operation.

Dr. Thomas J. Harris said he would like to speak a few words in regard to the work done by Dr. Tansley in two operations, following out the method reported by him at the last meeting. He confessed to have had a great deal of skepticism regarding the simple method of procedure when there was such a difficult condition to operate upon. Through the kindness of the doctor, two cases which he had the opportunity to see had been operated upon by this method. The results were excellent. This operation permits the use of cocaine only. We have always to bear in mind that to the patient, at least, ether is a source of dread. Again, if we can avoid breaking up the septum—only its necessary prostrating effects—it is a distinct gain. This the doctor claims to succeed in doing. The speaker had not

done this particular operation, but intended to do it. The doctor relieves the pressure on the septum by dissecting up from the sides two flaps of mucous membrane; he proceeds without the crushing operation, and he then makes pressure with the tampon. He does this after pushing the septum over; the tampon is left in four days or longer and there follows no unpleasant symptoms. In two cases the speaker had seen there had been a most total occlusion on one side. The concave side had been filled in with a perfectly straight septum.

The Chairman, Dr. Wright, said that before the paper on "Deviations of the Septum" was read at the January meeting of the Section, there were four cases operated upon by various methods in his clinic in Brooklyn. Two of these were done by the ordinary Asch method, one by the Roe method and the other by a combination of both methods. There followed very good results in all cases but one, and of that case he wished to speak. This patient was nineteen or twenty years of age, with a very much deflected and thickened septum. The bridge was broad and thickened, and the young man stated that his nose had been broken six times. The septum was very thick where it was joined to the nasal arch. In this case the Asch operation was performed. The septum was forced over to the median line and the tubes were introduced. From the sloughing of one of the flaps there resulted a bad perforation. Inside of six days this perforation was quite large. Gradually the condition began to look like a syphilitic nose. The young man denied any syphilitic history. He placed the patient upon iodide of potassium and the thickening of the septum and nose decreased. The perforation still exists in the septum. In spite of the history of the repeated accidents, he thought it was evident that the condition of infiltration was largely due to syphilis. The perforation was far back and there will probably be no trouble from it, but the deviation was not corrected.

In regard to the use of anæsthetics, he said that in all of those cases pledgets of cotton soaked in ten per cent cocaine were laid on each side of the septum, and subsequently a few drops of a four per cent solution of cocaine was injected beneath the mucous membrane. In three of the cases complete anæsthesia was obtained. In the Asch operation there was little pain, but in the Roe operation there was some pain in spite of the cocaine, although he did not think it was severe. In one woman, fifty years old, there was no pain felt.

In children it is perfectly easy to break up the septum, but the greatest difficulty is experienced in the after-treatment. The septum is very elastic and it tends to force the tube out. In these cases the

Roe method seems to be preferable. With preliminary antiseptic precautions, he plugs the nose with iodoform gauze, leaving it there four or five days, during which time the gauze usually remains sweet. The necessity of replacing the tube is avoided in these cases.

In regard to splints, we often have trouble with the Asch splint, especially in children. The speaker has sometimes used heavy rubber drainage tubes, which, after being introduced, held very well.

As to cutting into and breaking up the bony septum, the speaker did not feel like doing it.

In regard to the question as to when cases required operation, he thought it depended upon the symptoms. If the septum was but a little deflected, yet produced marked obstructive symptoms, that case should usually be operated upon, but even if there was total occlusion, and the patient had lived forty or fifty years without symptoms, he surely should live the rest of his life without operation.

Dr. Delavan remarked, with regard to certain varieties of spurs and exostoses of the nasal septum, that where the ridge was continuous and extended along the septum for a long distance backward, he thought it was sometimes a mistake to remove the whole of it at one sitting. In such instances the anterior part of the spur could first be taken away and, at a subsequent time, the rest could be operated upon. The removal of the anterior part of the spur gave a clear field for the second operation, which could be performed with greater accuracy and with far less shock to the patient.

The objection to this procedure was that two operations were necessary. Where indicated, however, its advantages were decidedly great.

The speaker called attention to a plan which he had employed for a number of years to keep apart opposed surfaces of the nose that were likely to become adherent after operation. He was in the habit of inserting between the wounded surfaces a small piece of India rubber gauze, by means of which the parts were completely separated, and the healing progressed very rapidly and without the slightest irritation.

Dr. Emil Mayer said that there were a few statements made which he wished to combat. First of all he wished to protest against the statement of Dr. Myles that the majority of deflections were caused by injury. This was not the case, in his opinion. He had seen a slight deflection become more and more pronounced until it was complete, in a case where adenoids were present, and an operation refused. Dr. Gleitsmann had read a paper on the influence of adenoids upon the septum, causing deflections, and the speaker cited a

recent case where the cartilaginous septum was very much thickened and where, after removal of adenoids, the hypertrophic condition had entirely subsided. In another case, a marked deviation exists in a five-year-old child. The adenoids have been removed and the septum will be most carefully watched to note any advance in the deviation.

This brought him to the question, How young a patient may one operate on safely? He, himself, had performed it upon a five-year-old boy with unqualified success, but he would say that seven years of age is about as young as one should ordinarily operate. This, however, is not because of the pain caused by the tube. It is remarkable how painless its extraction and introduction is. If pain is occasioned, there is something wrong with the tube. The boy of five would be seated in a chair, and in play, counting one, two, three, the tube was inserted.

Another objection must be entered against the statement that the Asch operation is a crushing one. It is not and never was so described, either by its originator or by the speaker. The forceps that are used are firmly pressed together, but no see-sawing is done with them.

The tubes answer every purpose in the vast majority of cases. If there is much posterior obstruction they are too long and hence are cut off for that particular case. So, likewise, if they protrude anteriorly, should the lower end be taken off.

The speaker was glad that Dr. Quinlan had mentioned Dr. Goodwillie. The latter was a pioneer in this work and he was the first to introduce any tube in the nose after operations. These tubes were of soft rubber and acted as irritants to the mucous membrane, and upon this the vulcanite tube was devised.

The question as to what is an operable case of deviation has been answered by the chairman and embodied the speaker's views.

In regard to the question of injuring the vomer, that would seem to be utterly impossible with the Asch scissors, if properly introduced.

In commenting upon two hundred successful cases operated upon by the speaker, he gave his preference for complete anæsthesia rather than local anæsthesia, believing that the results would be better and more gratifying to the patient as well as to the operator.

Dr. O. B. Douglas said he had used rubber tissue with excellent results, and he wanted to recommend it to the members of the Section. His method differs somewhat from the plan of Dr. Delavan. He first wound a flat applicator with cotton and moistened it with a

solution of aceto-tartrate of aluminum, then wrapped it about with several thicknesses of rubber tissue. This being introduced between the two granulating surfaces, might be retained for weeks without discomfort to the patient.

Dr. Beaman Douglass said there was something wrong with the splints; with this exception the operation was almost a perfect one. He thought McKernon's splint was better than the Asch splint, and of course the Douglass splint was all right. None of the splints were perfect, because they did not fulfill the conditions desired. The splint was yet to be invented which would give perfect support. Probably this perfect splint would spread intranasal and posterior when pressure was applied, somewhat like a fan spreads. This would support the septum evenly all over. It was a mechanical problem which, so far, he had been unable to solve. He thought the splints should be narrower than those in present use. Certain progress had been made along the line of septal operations. He referred to the Adams operation. Then came the question whether it was right to operate at all, because of bad or insufficient results. Then came the crushing operation. Then the bending by Adams' forceps. Then the Asch operation followed, which gave such excellent results. His own operation he did not like to speak about too much, but would like the members to try it. He had done it eighty or ninety times with regular success.

The speaker believed that deflections should be operated upon when they interfered with respiration. In regard to the danger from hemorrhage, he did not think it was great, and was very unimportant, except in a few cases. Whenever the deflection caused any symptoms which could be directly traced to it and not to other obstructions, as middle turbinate thickenings, etc., he thought the septum operation should be performed. If adenoids are an element causing trouble, remove them.

The doctor had made it a rule not to operate upon children under seven years of age. In regard to the anæsthetic used, he thought so much depended upon the patient's control. He preferred to give ether, because under it one could do better work.

Dr. Gleitsmann said he wanted to state an experience that might be of service to others. He said there were some cases where it was almost impossible to bring the patients under the influence of cocaine or eucaine. It occurred to the speaker that if he used cocaine and antipyrine, he could produce anæsthesia. He was successful. He used fifty per cent antipyrine and twenty per cent cocaine. This will produce anæsthesia where twenty per cent cocaine would not.

Technique and Sequelæ of Operation for Naso-Pharyngeal Adenoids.

Dr. Wendell C. Phillips continued the discussion on this paper (discussion adjourned from the previous meeting).

Those who teach in post-graduate schools of medicine are frequently asked to name the *best* instrument for a given operation and the answer is far too often a definite statement, naming one single instrument as the best, thus leading the student to consider all other instruments as of doubtful value. Statements like the above should be so modified that the student would receive the impression that a certain instrument had proven most useful in said operator's experience.

So in operations for the removal of adenoid or lymphoid tissue from the pharyngeal vault; various operators use various methods and instruments and accomplish about the same results. A few years ago, in this country, nearly all operators used the Hooper modification of the Lowenberg forceps. Then came the Gottstein curette, and later the various modifications of each, some of which have been useful and many positively bad. So far, these variations in shape, size and cutting character have been more marked in forceps than curettes, as the Gottstein, with his own notable modification, still remains the type. A few years ago, the heart-shaped modification was shown to this Section by Dr. Munger.

This was supposed to allow the sides to enter the choanæ. But as usually constructed, the chief cutting portion is at the depressed point at its upper portion, and every stroke would simply plow a furrow along the posterior wall, rendering but slight service and with a possibility of doing much harm.

The modification presented by Dr. Chappell, based, as he claims, upon the results of examination and measurements of a large number of cases, varies but little in shape from the Gottstein. It seems to be of somewhat lighter construction and the serrations upon the cutting edge may add to its cutting power. I have not used this instrument, but it would seem to me that unless used very gently it would severely lacerate the deeper tissues and oftener result in severe hemorrhage.

For several years I have in nearly all adenoid operations combined the forceps and curette, and experience has led me to believe that the most effective work can in this way be accomplished.

Inquiry among a number of the members of our Section has led to a belief that this plan is followed by a large proportion.

But few use forceps alone and but few the curette alone. It is to

be understood that reference is here made to the general run of cases. Special cases, such as very young children, may be put down as exceptions.

The forceps which, in my hands, has been most effective in removing the larger proportion of the mass, and at the same time avoiding many of the dangers to surrounding tissues, is the Brandegee.

A large proportion of the staff of the Manhattan Eye and Ear Hospital make use of it for the removal of the main mass, but nearly all employ the curette and finger to complete the work. I have found the small curettes devised by Dr. Coffin to be very serviceable in reaching those masses of tissue often found high up on either side of the septum and not readily grasped by either forceps or curette. It would seem almost to be an axiom that the combination of forceps and curette will be more effective, in the majority of cases, than either alone.

Dr. Kenefick's fatal case will certainly serve as another danger signal and can but lead to greater care in the management of our adenoid operations. I have long believed that patients should remain in bed for from twenty-four to forty-eight hours following an adenoid operation, and for this reason I long ago made it a rule to perform those operations at the patient's home rather than in the office. It is also a wise precaution to have the services of a trained nurse, when possible.

The Manhattan Eye and Ear Hospital is not alone in having established a rule that these patients should remain in the hospital after operations; other hospitals, notably the New York Eye and Ear Infirmary, do the same. It is also important that the anæsthetic should be administered by one who has had experience in these special cases. Adenoid subjects, as a rule, bear ether badly. Some operators habitually douche the naso-pharynx with peroxide of hydrogen after the operation. An unpleasant experience with its use, several years ago, led me to look upon it as somewhat dangerous. In the case referred to, the peroxide of hydrogen, coming into contact with the blood in the naso-pharynx, formed a large clot, which was sucked into the larynx, requiring very rapid effort, even to hanging the patient downward by the heels, to prevent strangulation. There is no necessity for its use, except, possibly, in cases accompanied by severe hemorrhage, when the patient should be placed upon the side, to allow drainage from the mouth.

Dr. Kenefick's case plainly shows the importance of making careful inquiry as to hemorrhagic tendencies, and it should also serve to check indiscriminate operating by those who have not had the requisite training.

There are other tissues than adenoid, in the pharyngeal vault, and the removal of the adenoid tissue is sufficient without scraping everything away to the bone. In this connection it may be urged that the forceps are less apt to lead to this result than the curette.

Dr. Quinlan said he had a specimen which showed the results of a forceps operation, not that he wished to undervalue the curette, but that in a great many instances the curette does not do the work, especially if the adenoid is fibrous. In the case just presented, you can see the great quantity of tissue that has been removed from the vault of this man's pharynx. Now, this patient was operated on about one week ago, under ether, and the operation done according to up-to-date methods. I was informed subsequently that my patient was treated by a distinguished specialist of this city, about a year ago, and that a large piece of the pharyngeal tonsil was removed by the curette, under cocaine, at that time. I think we often do ourselves an injustice by attempting operative procedures in this light manner; we are unjust to ourselves and our patients—these operations should have the significance that they require, and it behooves us not to treat conditions too lightly—the speaker thinks this operation should be done under an anæsthetic and the vault thoroughly cleansed of all this offending tissue.

Dr. Beaman Douglass spoke in regard to the recurrence of adenoids. He thought that about three in one hundred cases return in the course of one year. He thought in these cases there was a diathesis toward the lymphoid growths. You remove these adenoids thoroughly and they again return. The reason was that the adenoids grew from the submucous layer of the membrane, and, since the surface of the membrane is only scraped or removed, the growth might recur.

In his own experience the best method combined the use of the forceps and the curette. There really was but little choice if the operation was done thoroughly and carefully. He used the Gottstein curette. Still about three per cent of the cases of adenoids recurred inside of one year.

Dr. Simpson referred to a case of secondary hemorrhage which might act as a guide to us. It occurred in a young girl, about thirteen years of age, who had menstruated once previous to the operation. The operation for adenoids was done a few days before menstruation, without inquiry as to the time of menstruation. As that time approached she had a violent secondary hemorrhage. Examination showed that the wound had not entirely healed. The speaker thought it was a wise precaution to inquire in regard to the

time of menstruation, and to operate on girls soon after rather than before the period. He further suggested the propriety of making an examination for Klet-Læffler bacilli before operation, so as to avoid subsequent diphtheria in the wound.

Dr. McKernon referred to the case of secondary hemorrhage, following adenotomy, reported by Dr. Knight at the previous meeting, in which he thought the death was due to sepsis. He saw the case twenty hours previous to the death, and at that time the temperature was 103° , pulse 140° , and there was a distinct odor from the pharynx of the child, and it presented every evidence of being septic. Sepsis, and not hemorrhage, he thought to be the cause of death. He did not think it should go on record as a death due to secondary hemorrhage.

Dr. Mayer said: The subject under discussion being post-operative hemorrhage, he would like to present a brief clinical note as having much bearing upon this matter. A boy, aged seven, was brought to his office with a very large right tonsil. His mother, who accompanied him, stated that she feared any cutting operation, because every member of her family bled very readily and very long. He, accordingly, used the galvano cautery, and in about seven applications had reduced the tonsil to one-sixth of its former size.

A short while ago he met the mother of his patient and she stated that she had undergone an operation for hemorrhoids, and had informed the surgeon of her family tendency. He operated, and on the tenth day she had so alarming a hemorrhage as to require much time in checking it and thoroughly exsanguinating her.

The lesson this teaches is to refrain from operative procedures when hemorrhage is a family peculiarity.

Dr. Kenefick said he did not take that view of the case. If one of the gentlemen present had seen the case on the day of the operation the question would not have come up. There was already marked and profound anæmia on the same evening following the operation, which made it appear as though the child could not live anyway. In these cases of hemophilia gangrene sets in early. The odor, etc., was noticed about the nose; the reason was because the plug was placed in on Tuesday night and was not removed until Thursday noon. Sepsis could occur when the child was completely prostrated by the severe hemorrhages.

Dr. Phillips asked if the temperature had been taken before the operation.

Dr. Kenefick answered that he did not know.

Dr. Gleitsmann spoke of a case of secondary hemorrhage that took

a favorable course. He used post-nasal forceps and the Gottstein curette, and he cut a little too far laterally near the Eustachian orifice. This was followed by a severe hemorrhage, which was controlled by iodoform gauze. He advises against cutting too far laterally.

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ORIGINAL COMMUNICATIONS.

A CASE OF PHARYNGEAL NYSTAGMUS, WITH REMARKS ON SIMILAR AFFECTIONS OF THE PHARYNX AND LARYNX.

BY H. LAMBERT LACK, M.D., LONDON; F.R.C.S., ENG.

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Department Children's Hospital, Paddington Green, London.

The object of this paper is to draw attention to an interesting and apparently very rare affection, or perhaps one should say symptom, in the hope that other observers who have met with it may record their experience and increase our, at present, very meagre knowledge on the subject. The nature of the affection will be most easily understood by giving brief notes of a case at present under my care.

L. H., female, aged nineteen years, came under observation at the Throat Hospital, complaining of "phlegm sticking at the back of the throat." On examining the pharynx one at once noticed a remarkable rapid twitching of the posterior pharyngeal wall which seemed to be sharply jerked to the left side and then relaxed. The movements were rapid and unceasing, about 150 or more to the minute, and were not quite regular either in extent or time. They curiously resembled nystagmus, which is, I think, the best name to apply to the affection, and were quite different from choreic movements. The affected muscles seemed to be the superior and middle constrictors.

The palatal muscles were not affected, although at times the soft palate seemed to have a slight communicated movement. This condition remained constant for over two months, during which time the patient was under frequent observation and was shown at the Laryngological Society of London. It apparently gave rise to no symptoms and thus its previous duration cannot be determined. Cocainization of the nose and pharynx had no effect on the movements. One nostril being at times sufficiently patent to permit a view of the pharynx through it, the movements could be seen to continue when the mouth was closed. Examination of the larynx showed that the arytenoids and vocal cords were adducted normally and were quite steady on phonation. On quiet inspiration, however, one could see that the arytenoids separated in a jerky fashion and that they approximated again during expiration in two or three jerks. These movements were of slight extent, occurred much less rapidly, and in no way resembled those of the pharyngeal wall. My attention was only drawn to them after reading some of the reported cases. On watching the upper lip one sometimes saw a peculiar, very fine, rapid tremor. This soon ceased when the patient was not watched and reappeared after a few seconds on attention being again directed to it. There was present some post-nasal catarrh with a little dry adherent crusty secretion. The patient seemed to be in robust health, although she said she had suffered from rather severe headaches in the last three months. There was no tremor or spasm of any other muscles than those above described. There was no history, personal or family, of chorea or rheumatism. The patient did not seem hysterical, and although rather nervous on her visits to the hospital, did not appear to be so at other times.

I have had the opportunity of seeing another case, in many respects exactly similar to the above. The patient, a man, aged thirty-three years, was shown at the Laryngological Society of London, by Dr. Bond, who thus described the case: "On examining throat, the back of pharynx was found to move in a rhythmical manner, horizontally to the left and back again, and at the same time the left side of the soft palate was drawn up and then relaxed. The larynx was not affected. Patient could give no history of the malady, as he thought his throat was quite healthy. There was no clicking heard by patient, himself, or by others." The movements of the pharynx in this case, as in mine, irresistibly remind one of nystagmus. Neither of these cases seemed to afford a clue to the pathogenesis of the affection, and I, therefore, consulted the literature of the subject. In a fairly extensive search through the throat literature of the last four-

teen years, I could find but very few cases in any way resembling the above. Some of them were, however, very interesting and suggestive, and I venture to add a brief resumé of them and of the more important papers bearing on the subject.

Spencer has recorded the case of a girl, aged twelve years, suffering from the symptoms of cerebral tumor—intense occipital headache, constipation and vomiting, vertigo, reeling gait and ocular nystagmus. There was a rhythmical spasmodic movement of the superior constrictor at the same rate as the eyes, namely, about 180 a minute. The soft palate and fauces showed only a slight tremor, probably communicated. The arytenoids seemed to twitch in a similar manner and at the same rate as the pharynx. On inspiration the glottis opened in a jerky manner, closed in a similar way, and remained shut, with only a slight tremor, until a fresh breath was drawn.

Scheinman showed at the Berlin Medical Society, a case of left-sided hemiplegia, probably due to a syphilitic lesion. The patient exhibited clonic twitchings of the superior constrictor of the pharynx, of the levators and tensors of the palate and of the adductors of the vocal cords.

Oppenheim reported the case of a patient with a cerebellar tumor in whom there were tremulous movements of the head and upper extremities, with rhythmical twitchings of the pillars of the fauces and of the laryngeal muscles.

The same observer has reported a case of twitching of the pillars of the fauces, of the uvula and of the vocal cords, at the rate of about forty times a minute. The patient had twitchings, also, in the lower facial region, and other serious nervous symptoms, such as severe post-occipital headache, difficulty in swallowing, paralysis of the left facial nerve and of the right leg, etc., all of which followed on a severe attack of cerebro-spinal meningitis two years previously.

Dieulafoy recorded the case of a man in whom the soft palate and uvula were rapidly raised and lowered, producing a slight noise and a peculiar sensation (felt by the patient). There were tremors of the lips and eyes and of the whole face when he spoke, but no other muscles were affected. He suffered from severe nervous depression, bad memory, difficulty in speech, etc., dating the whole trouble two years back, when he had a severe nervous attack characterized by vertigo, periods of unconsciousness, etc.

Legroux showed a similar case, a man, who, for fifteen or sixteen years, had had constant rhythmical bilateral spasm of the palate, "a true nystagmus." He had had syphilis and was suffering from tabetic symptoms which were, however, improving under specific treatment.

Gerhardt has recorded a case in which spasm of the muscles supplied by the right spinal accessory nerve, followed a severe injury, and gave rise to wryneck, etc. The right vocal cord adducted further than the left and moved in a very jerky manner. These jerky movements also occurred in expiration and could be felt by the fingers over the lower part of the thyroid cartilage. The right half of the soft palate was at a higher level than the left and the right half of the uvula was tremulous.

Baginsky has described, under the title "Nystagmus of the Vocal Cords," what he believed to be a unique case. The patient, a woman, aged sixty-one years, had suffered for many years from various forms of severe hysteria. The vocal cords during expiration moved in a jerky manner up to or beyond the cadaveric position. These movements were less marked on hurried respiration and disappeared entirely on phonation. They persisted for over two years.

A few cases of a somewhat different nature have been recorded, under the title "Chorea" of the soft palate. Thus Schadle relates the case of a young girl, apparently in excellent health, whose palate showed "distinct rhythmic choreiform movements," due to constant spasm of the levatores palati. The movements were associated with a clicking noise in the ear, were temporarily arrested by cocainizing the nose and cured by removing hypertrophied inferior turbinates. The term chorea is obviously wrong and misleading, choreic movements being essentially not rhythmical. Almost identical cases have been recorded by Cornelius Williams, Seifert, and Michael, all of them being associated with and presumably due to nasal lesions.

Schultzen, in a very full paper on tremulous movements of the larynx, showed that these may occur in connection with certain severe nervous diseases, as paralysis agitans, insular sclerosis, and possibly hysteria, and also in certain forms of intoxication, as by alcohol, mercury and lead. Tremors have also been seen in the healthy cord after prolonged speaking, in cases of unilateral abductor or recurrent paralysis.

This is the whole of the literature I have been able to find bearing in any way on the subject, but though scanty it is extremely interesting and the cases have, I believe, never been previously collected. Reviewing them, we find they come naturally into two groups:

1. Those in which the pharyngeal and laryngeal movements were associated with and presumably due to severe nervous lesions, such as cerebral tumors, meningitis, tabes dorsalis, etc.

2. Cases in which the soft palate or some of its muscles were affected and in which the movements were apparently excited reflexly by some local catarrhal condition, nasal polypi, adherent crusts, etc.

The first class is by far the larger and contains all the cases of nystagmus-like movements of the pharynx and larynx hitherto described. In such circumstances, I naturally watched my patient closely and examined her repeatedly for any sign of a severe nerve lesion, but without any success. At the same time she was treated carefully for the relief of the post-nasal catarrh. In about three months this was much improved and the crust formation had ceased. *Pari passu* it was noted that the movements of the pharynx were becoming less frequent and less marked. At the present time, over four months from the commencement, the catarrh and the nystagmus of the pharynx and larynx have ceased.

This is, so far as I know, the first case of its kind ever recorded, but it seems to me possible that the pathogenesis of Dr. Bond's case may have been similar. The patient had middle-ear disease, and therefore is not unlikely to have had post-nasal catarrh, although there is no note of it in the report of the case. At any rate, my case seems to show conclusively that the so-called pharyngeal and laryngeal nystagmus may arise from simple local conditions quite apart from severe central nerve lesions. This fact is obviously of great importance with regard to the prognosis and treatment of these cases.

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THE CONTROL OF NASAL HEMORRHAGE.*

BY J. M. CRAWFORD, M.D., OF ATLANTA, GA.

Hemorrhage from the nose is from many causes. From trauma, such as blows, falling on one's face, removal of enchondromas or exostoses with saw, gouge or other instrument. From a ruptured blood vessel seemingly without any cause. In the former cases hemorrhage is from the site of injury or point of operation. In the latter it is most usually, I might say always, on one side or the other of the septum, far in front. Hemorrhage often occurs from constant picking of the nose, and from a gradual thinning or wearing away of the walls of the blood vessels in this region. This occurs in cases of great debility, as in typhoid fever, etc. In case of persistent hemorrhage, from a point far back in the nasal cavity, I know of nothing better than a wet tampon of sterilized non-absorbent cotton (wet with cosmoline, alboline or peroxide of hydrogen). This plan, I might say, has been advocated by no one, to my knowledge, except myself. Others advocate the use of absorbent cotton, saturated with cosmoline or alboline: some with peroxide of hydrogen. The object of sterilizing is very plain, also the idea of using the non-absorbent cotton, instead of the absorbent, since we have in the absorbent just what we do not want. We have cotton without oil, and unless we replace the oil to a certain extent it makes a very poor hemostatic. We take the absorbent cotton and endeavor to replace the oil of which it has been deprived by saturating it with alboline. Would it not be far better to take the non-absorbent and add more oil to it by saturating it with cosmoline or alboline, and then use this as your tampon? The manner in which I use this is as follows: Having applied to the mucous membrane of the nose and throat a little muriate cocaine solution, I place my index finger of the left hand in the patient's mouth, extending up behind the palate. The end of this finger acts as a base on which to build, then with a probe I pack the nose as full with this sterilized non-absorbent cotton as I think needful. This tampon should not be allowed to remain longer than thirty-six hours. This measure I never adopt where the hemorrhage is from a point that can be readily seen. The cautery in such cases is quite sufficient.

*Read before the Southern Section of the American Laryngological, Rhinological and Otological Association, Atlanta, March 28th, 1898.

A FORM OF PRIMARY NASAL DIPHThERIA.*

BY E. C. ELLETT, M.D., MEMPHIS.

The author considered the form usually spoken of as membranous rhinitis. After calling attention to the various causes of pseudo-membranous inflammations of mucous membranes, and pointing out the inability of the physician to separate the diphtheritic without microscopic examination, he relates two cases, both in boys, in whom the presence of a false membrane in the nose, proven to be diphtheritic by the presence of the Klebs-Loeffler bacillus, was unattended by any constitutional disturbance. Antiseptic treatment was followed by recovery in both cases. In reviewing the literature of the subject, many theories as to the cause of this condition are found to have been held by the older observers, but bacteriological examinations have shown that most of the cases are diphtheritic. The condition is mild, and slightly contagious, probably an attenuated form of diphtheritic infection. Ellett concludes:

1. While so-called membranous rhinitis is a disease of distinctive features and possibly a special affection, the large majority of cases are of diphtheritic origin, and should be treated as such and regarded as contagious.

2. The fact that it may be simple or diphtheritic is a cardinal reason why the noses of patients with rhinitis should be carefully examined, and any membrane therein submitted to a microscopist, since only by the microscope can we differentiate the two forms.

3. This form of nasal diphtheria leads to a chronic course, ending in recovery, and is influenced by antiseptic treatment.

4. We must regard the affection as diphtheritic until the contrary is proved.

5. In the present state of our knowledge, the presence of the Klebs-Loeffler bacillus imposes on us the duty of isolating these cases as contagious and reporting them as such to the health boards.

*Author's Abstract of article read at Annual Meeting of the American Laryngological, Rhinological and Otological Society (Southern Section) at Atlanta, Ga., March, 1898.

EMPYEMA OF THE MAXILLARY ANTRUM.*

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The preliminary programme of this meeting gives promise of so many interesting papers that I shall limit the scope of my remarks and confine them to some points in relation to empyema of the maxillary antrum.

The commonest *causes* of this condition are diseases of the nose and dental caries; but which of these yields the larger crop is apt to be differently stated, according to individual circumstances. Surgeons connected with dental hospitals naturally see more cases originating in the teeth than in the nose; but, though they are, without doubt, a frequent cause, the mere fact of the presence of carious teeth in the upper jaw is scarcely sufficient evidence in all such cases that these originated the suppuration in the antrum. The close connection between the dental alveoli and the antrum is well exemplified in this skull, kindly lent to me by Dr. Jewett, a dentist of this city, in which we see a molar tooth, probably the third, has actually grown, with the crown forward and upward, into and is now lying almost entirely within the antral cavity, from which part of the outer wall has been removed. You will also observe that the canine tooth has no alveolus, but lies obliquely above the roots of the premolar, the crown presenting in the alveolus of the first molar without entering the antrum. Dr. John Wyeth, of New York, has reported a case of supernumerary tooth in the antrum, giving rise to empyema. Again, some months ago, I had a patient from the country who had submitted to the tender mercies of a traveling tooth-puller, with the result that he suffered severely for some days with all the symptoms of acute antral empyema. I had arranged to operate when he arrived in great glee with the root of a tooth in his pocket which had come out, not through the alveolus, but which he had sneezed out through his right nostril. Besides cleansing nasal lotions, no other treatment was employed, and the discharge immediately diminished and ceased entirely within a few days.

As an example of one of the ways in which nasal troubles may originate antral suppuration, I may mention a case on which I re-

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cently operated. Pus formation had entirely ceased and the daily injections of fluid came clear through the normal opening into the nose. Then the patient, who was practically cured, took a severe cold in the head. The fluid at once ceased to come through the nasal aperture until a plug of stringy mucus had been dislodged by frequent forcible syringing, and even then it came not near so freely as before. A direct extension of the catarrhal process may start the antral inflammation, or a simple blocking of the ostium, through swelling of the mucous membrane, by polypi (in which deviation of the septum may play a predisposing part), by producing a rarefaction of the air within the cavity, may suffice. The wonder is that antral congestion is not more common than it appears to be, but I am inclined to think that it is in reality of very much more frequent occurrence than is generally supposed, and that it, along with or instead of the frontal sinus, gives rise to the feeling of weight and pain at the root of the nose, so common in both coryza and antral affections and that some of the excessive discharge of muco-pus toward the termination of a cold comes at times from the mucous membrane of the antrum.

Besides these two main causes, antral empyema may originate in several of the infectious diseases, including influenza; there are almost certainly cases arising primarily in the antrum, and independent of disease elsewhere; while traumatism, such as operations within the nose or on the teeth, and blows, must be admitted as having given rise to a certain number of cases.

The *symptoms* complained of are mainly two, pain and purulent canary-colored discharge from the side affected. The pain is not always, though sometimes, referred to the cheek, but rather to the root of the nose and supra-orbital region, due probably to blocking of the orifice of the frontal sinus and consequent absorption of its air. It is often of a neuralgic and periodic character, relieved at once by surgical evacuation of the pus, frequently previous to this bearing no apparent relation to the amount of temporary accumulation or discharge of the antral contents. The pain in acute cases may be exceedingly severe and accompanied by considerable rise of temperature. Its severity and position will depend to some extent upon whether or not the pus is retained or discharged. In the former case it is more likely to be severe and situated in the cheek, and the secretion may even bulge one of the walls of the cavity, or make an opening for itself.

The discharge into the nose usually appears through the ostium in the middle meatus, but not invariably so. For instance, in a recent

case of my own in which the diagnosis was confirmed by operation, pus was never seen in that locality, though large quantities were constantly being discharged into the throat, and could be seen by posterior rhinoscopy lying near the Eustachian tube. Moreover, it was not till some days after the operation that the fluid injected into the antrum began to find its exit through the ostium rather than through the more posterior opening, by which it had been accustomed to enter the throat.

There is a marked difference between this disease and atrophic rhinitis, in so much as in the former the patient's friends suffer comparatively little from the odor of the discharge, while, his olfactory sense being intact, to himself the stench may prove most burdensome, and also lead him to avoid society from the idea that it is as unpleasant to others as to him. The general health, especially in long continued cases, is apt to suffer from a resulting mental depression, from anæmia, from loss of appetite and digestion, and the possibility also of the degeneration of the various tissues, which sometimes follows a prolonged purulent secretion, should not be overlooked. Both sides of the face may, of course, be affected. In that case special attention should be paid to the anterior ethmoidal cells which may be found to be diseased.

In making a *diagnosis* one must bear in mind this possibility of the disease being bilateral. The thick, canary-colored discharge is different from that due to simple rhinitis or to that due to a sequestrum in syphilis, which, too, can usually be discovered with a probe; in simple caries with a free discharge, fetor is not marked; a foreign body, though it may give rise to very similar symptoms, should be discoverable; the history and pressure symptoms should help in the diagnosis of malignant disease; pus originating in the sphenoidal sinus runs into the post-nasal space, and from the posterior ethmoidal should be seen in the space between the middle turbinal and the septum, or in the post-nasal space. But the openings from the maxillary antrum, from the frontal sinus and from the anterior ethmoidal cells, are all close together in the middle meatus, about an inch posterior to the anterior end of the middle turbinal, and when we find there a thick yellowish discharge, quickly recurring after removal, we may expect disease of one of these, most frequently of the antrum, which, however, is rarely only the receptacle of pus draining through a rupture in the wall of the infundibulum, or directly from the ethmoidal cells, and not its seat of origin. When the head is lowered, with the affected side uppermost, the discharge will run more freely, but it may do that also in frontal empyema, as shown

by Greville MacDonald, probably from a resulting admission of air. The pain may give no sure indication of the seat of the disease, for in maxillary empyema it is situated more in the frontal region than in the cheek. The amount of discharge at one time must bear a relationship to the size of the cavity from which it comes. One must not trust too implicitly that in antral disease the secretion will appear at the usual site, for, as already indicated, that spot may be entirely free from it, while it may flow copiously from an aperture at the posterior extremity of the cavity. Thus, the most important feature for diagnosis of empyema of one of the anterior cavities may be wanting. Percussion of the teeth with wood or steel may prove of some assistance. Voltolini's electric lamp may show a less brilliant illumination of the affected side, especially when viewed through MacBride's tube of dark metal, but it alone is not to be relied upon. A solid tumor in the antrum will distinctly interfere with the passage of light, while a cyst will rather increase the transilluminating power of the lamp.

But there is only one certain means of diagnosing that the maxillary antrum secretes or receives pus, and even that requires certain precautions to prove entirely reliable—I mean exploratory puncture. It is possible when the usual exit is large for the cavity to completely empty itself, especially as the secretion, like the pain, appears to be subject to a certain periodicity. If a puncture be made at such a time, one will, of course, fail to find pus. This happened to me in the case already referred to in which the pus appeared, not in the middle meatus, but in the posterior naris, for not only did no pus exude through a large canula, inserted through the outer wall near the floor of the antrum, but no sign of pus could be found on a cotton-tipped probe with which the mucous membrane was searched. I had previously, on account of the amount and position of the pus, decided that it could come only from the antrum. But when I discovered that just before the puncture was made the patient had strenuously endeavored to get rid of all the pus, and that the discharge for days later was tinged with blood, I determined to try again; this time, in the morning. In the former instance I had punctured with the patient under ether, and prepared to go on to complete operation; but this time I used only cocaine: got pus through the canula, and drove large quantities of it with a syringe, not into the nose, but into the throat. (On the sixth day after the operation proper, the fluid injected came out almost entirely into the nose.)

Prognosis.—As already said, I am inclined to think that acute inflammation in the maxillary antrum is more frequent than is gener-

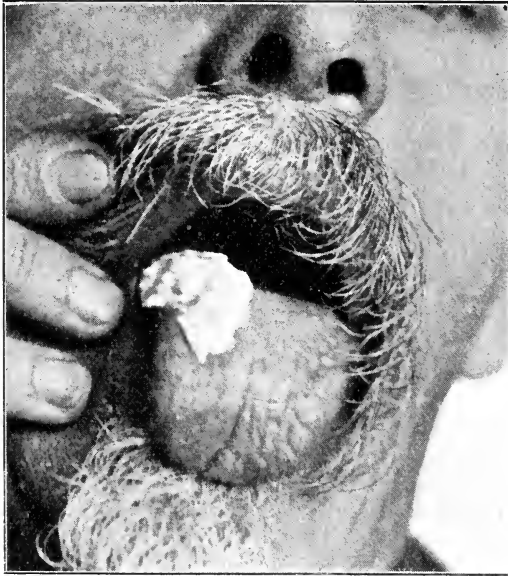
ally thought, and that therefore many of these cases recover spontaneously, either permanently or until another "cold" sets in. After the opening and washing out of the antrum, some, even old cases, quickly recover, especially under proper treatment for the interior of the cavity. In some others the mucous membrane has undergone such change that strong measures must be taken to bring it to a healthy condition, and there is always some chance of relapse where the original cause has not been completely removed.

Treatment.—In acute cases, the cause having been as far as possible removed, an endeavor should be made to keep the ostium patent by bringing the nasal mucous membrane to as nearly a normal condition as is practicable. I have no personal experience of injections through the ostium, though they are advocated by some. Throwing lotions forcibly against the ostium sometimes opens it, and so does Politization. In some acute and in chronic cases, the antrum is best treated by drainage and applications made through an artificial opening through an alveolus, in the inferior or middle meatus of the nose, or through the external wall. Opinions differ concerning the point of election, and I have, personally, not made use of the nasal route. The alveolus of a diseased tooth is often the most convenient, but especially when the teeth are healthy or have been some time absent, I am content with an opening through the external wall, large enough to admit a finger, for exploratory purposes, which can be made by a flap operation or otherwise. I am satisfied with the benefit of the application of nitrate of silver, say twenty grains to the ounce, to the antral wall after the cavity has been washed out, and the subsequent packing with iodoform gauze, which can be continued as long as necessary, or for which lotions, antiseptic and astringent, can be substituted; or powders, or iodoform dissolved in ether. Some prefer to insert a drainage tube and bring it out in the inferior meatus. If there is much thickening or pouch formation, or granulation tissue, curetting may be advisable, and polyp must, of course, be removed.

REPORT OF A CASE OF LIPOMA OF THE TONGUE.*

BY HAL FOSTER, A.B., M.D., KANSAS CITY, MO.

The patient which I present, Mr. E., is sixty-two years old, and lives at the United States Military Home, in Leavenworth, Kansas. He enlisted from New York in our late war. He is a strong, healthy-looking man for sixty-two years. His health has always been good. He used tobacco for many years. Five years ago he first noticed a small, white growth on his tongue, which grew to its present size



very rapidly. Thinking tobacco might in some way do it harm, he discontinued its use immediately. The patient was absolutely certain that it was cancer and has brooded over it a great deal, and this constant worry has made him somewhat of a neurasthenic. He informed me that on several occasions he had made up his mind to have the entire tongue removed. The growth has never caused pain, but he has worried mentally a great deal on its account, thinking that it

* Read before the Kansas City Academy of Medicine, March, 1898.

would eventually cause death. December 15, 1897, he presented himself for examination. This large tumor which I now present for your inspection was removed. A small portion was subjected to a microscopical examination, before the operation, in order that there should be no mistake. The growth was pronounced a lipoma. A ten per cent solution of cocaine was applied several times to the tumor, and after waiting twenty minutes, a cold snare wire was used and the growth was carefully and slowly removed. Immediately after its removal the galvano-cautery was applied. The bleeding was very slight. A solution of aristol-menthol in liquid benzoin was applied several times a day. In one week the wound had entirely healed as you now see, there is not even a scar left. The man is now entirely well.

This is the first case of lipoma of the tongue which has ever come under my personal observation. In looking up the literature on the subject, I have found other cases similar to the one reported. Writers admit that they rarely occur on the tongue. They frequently occur on the body.

I presented this case before the Kansas City Academy of Medicine on account of its rarity—that is, of being on the tongue. If you will carefully examine this patient's tongue, you will observe that there is not even a scar left to mar its usefulness. It has been several months now since the growth was removed and there is not the slightest indication of its return. I am quite sure that it will never return.

Gelatin as a Hemostatic. (*Amer. Med. and Surg. Bulletin*, Vol. 12, No. 1.)

Dr. Paul Carnot has employed this substance as a local hemostatic in epistaxis, metrorrhagia, wounds and surgical operations. He uses a warm—not hot—5 to 10 per cent solution of gelatin in a sterilized salt solution. In severe nose-bleeds he syringes into the nose from 30 to 40 c. c. (3 to 10 drachms) of a 5 per cent solution and stuffs the nasal cavity with a cotton tampon saturated with the same solution.

PERITONSILLAR ABSCESS.*

BY DUNBAR ROY, A.B., M.D.

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The reading of this article is more for the purpose of precipitating a discussion than an effort to add any new ideas upon the subject. A great deal has been written by laryngologists concerning the etiology, symptoms and treatment of acute tonsillitis and chronically hypertrophied tonsils, but very little can be found concerning the manifestations of peritonsillar abscesses, and even the various text-books dismiss this practical subject with but few words, if at all. Fletcher Ingalls in his excellent work denominates this condition as phlegmonous tonsillitis, giving as synonyms "suppurative tonsillitis," "abscess of the tonsils," "quinsy," "phlegmonous sore throat." To my mind these synonymous terms are incorrect, for in my experience the abscess is nearly always outside the tonsil. Phlegmonous sore throat is inaccurate because it does not designate what portion of the throat is involved. The practical point of opening the abscess is dismissed with one sentence. Sajous in his text-book makes no distinction in the forms of tonsillitis, but considers them all together and the condition of abscess of the tonsil but a final result of acute tonsillitis. He also calls it an abscess of the tonsil and speaks of opening the abscess through the tonsil.

Lennox Browne, while recognizing this condition, devotes very little space to its consideration. He remarks that Cohen uses the term "phlegmonous pharyngitis" as synonymous with tonsillitis, but remarks "that the peritonsillar tissue is affected rather than the gland itself in phlegmonous inflammation."

Max Thorner, in Burnett's System, has given a very good description of this affection under the title of phlegmonous pharyngitis.

Dr. C. E. Bean, in the same work, has also described this affection under the title of acute tonsillitis.

Thus we see that various writers differ as to the pathology and morbid anatomy of this affection.

Thus we see the condition which I wish to speak of to-day—I have designated as peritonsillar abscess. Phlegmonous pharyngitis is, I

*Read before the Southern Section of the American Laryngological, Rhinological and Otological Association, Atlanta, March 28th, 1898.

think, an inelegant term, since it does not indicate the anatomical position of the abscess, and therefore does not differentiate it from similar conditions in other portions of the pharynx.

The tonsil is lymphoid structures, situated between the two palatine arches, the anterior and the posterior. It is freely movable in its bed and in the large majority of cases it presents fibrous adhesions to both the anterior and posterior palatine pillars. The muscular structures, therefore, inclose the tonsil on all sides, except its free portion. In front, the ramus of the lower jaw encroaches so near the tonsil that there is very little loose cellular space left which could be filled with pus and exudate, going to form an abscess. Pus always seeks that region where there is the least resistance. On the other hand, the anterior pillar curves around the top of the tonsil and seems to lap itself over the posterior pillar and is lost in the soft palate above. This is what really happens. Posteriorly to the tonsil there is quite a loose cellular space which could be filled with pus should the emergency come. The lapping of the anterior and posterior pillars above seems to have formed a triangular space filled with connective tissue and with which the tonsil communicates.

For these anatomical reasons I have never seen a peritonsillar abscess, the result of infection through the tonsillar lacunæ, but what had its seat posterior to the tonsil. Abscesses which occur anteriorly, in my experience, are the result of suppurative processes from the posterior portion of the alveolar process of the lower or upper jaw on the same side. I have seen abscesses in front of the tonsil of the most painful character which were the result of a process in the last molar tooth.

The question now arises, what is the cause of these peritonsillar abscesses? Some authors hold that they are always the result of a previous tonsillitis.

In the light of our present knowledge there can be no doubt in my mind as to the bacterial origin of this affection. It is certainly true that in the large majority of cases a severe inflammation of the tonsil precedes the formation of the peritonsillar abscess, and yet I have seen cases where the abscess has formed and the tonsils remain seemingly scarcely involved. We all know that there exists, normally, in the mouth and throat, secretions containing various kinds of micro-organisms; therefore, when a tonsillitis does take place, there must be superadded something which previously did not exist, and much the more so when an abscess is formed. For it is the daily observation to see cases of severe tonsillitis of the most virulent type, and yet no abscess is seen to follow. Some authors say that it is due at the time

to some lowered vitality of the parts or the whole system whereby the parts are unable to throw off this concentrated poison. Observation certainly seems to contradict this idea, unless there is some lowered vitality of the parts not now recognizable to the medical eye; for the worse cases of abscesses which I have ever seen have occurred in persons showing the most perfect physical health.

The tonsillar crypts and ducts are certainly the carriers of the deadly organisms, for in the large majority of cases these crypts show follicular exudates previous to or at the time the abscess develops. Whatever may be the condition of the parts, one thing is certain, and that is, this affection is microbic in origin and the warfare between the leucocytes and the pus-forming organisms certainly results in a victory for the latter.

Must we not in the end be obliged to admit that there exists a peculiar idiosyncrasy in the individual which we are unable to explain, whereby his or her throat is liable to the formation of peritonsillar abscesses? One attack seems to predispose to another and there are some people who seem especially liable to just such attacks. I have one patient who usually has one severe attack every winter, yet when the attacks are over the tonsils do not show any pathological changes.

Is it not, perhaps, in the existence of this triangular space of which I have spoken that predisposes to the formation of an abscess? I have nearly always noticed that in persons who suffer from these abscesses the anterior pillar seems to lap more than ever the posterior, and it is but a surmise on my part that in these cases there is a larger posterior cellular space for the filling up with pus.

Rice, of New York, in the Cincinnati *Lancet-Clinic*, in a very exhaustive and excellent article on suppurative tonsillitis, has this to say in his summary:

"That suppurative tonsillitis is not a correct name, because the suppuration occurs in the connective tissue about the tonsils and very rarely in the tonsils themselves. That in people who possess the disposition to suppuration about the tonsils, we find the tonsils either adherent to or covered by the pharyngeal pillars, and that this condition plays a more important role in the predisposition to suppuration about the tonsils than does the rheumatic or other diathesis."

Such a space affords an excellent bed for the propagation of pus germs. Nor have I ever seen any special character of tonsil which seemed to predispose the formation of an abscess. I have seen abscesses form where tonsils were small and sclerosed, and again where they were large and lymphoid looking. I have even seen abscesses form when the tonsil had been completely removed.

Most writers hold that peritonsillar and tonsillar abscesses are more common in children than in adults, and yet if one's experience counts for anything, mine is just the opposite. With the exception of two cases only, all my cases have been in adults.

The symptoms of this condition are, no doubt, familiar to all. The pain is severe, and especially intense on deglutition, at which moment the patient distorts his face, makes forced movements with his whole body in his effort, perhaps, to swallow even a drop of saliva. This pain is pathognomonic, and even in the very earliest stages is often indicative of the coming abscess. The pain is due to the inflammatory condition of the muscles of deglutition and it is for this reason, I think, that so many authors believe that a rheumatic diathesis is at the bottom of it all. This view my observation does not lead me to accept.

The coated tongue, the fetid breath, the half-open mouth, the look of pain—who does not recognize these symptoms?

Let us now turn to the practical side of the question; that is, its treatment. Since, as I have said, the large majority of cases result from a previous inflammation of the tonsil, the question naturally arises, can the abscess be aborted? My views are that if the patient is not one of those predisposed to peritonsillar abscess and the inflammation in the tonsil has started upon its surface, that you may in some cases abort the abscess, but in the large majority of cases you are powerless to stay its course. The treatment of tonsillitis and also peritonsillar abscesses naturally divides itself into the medicinal and surgical. Under the head of medicinal, let us look to see what remedies are suggested by various authors as abortive or curative in their action.

Ingalls says, to use his exact words, "early in the attack the disease (phlegmonous tonsillitis) may be aborted as in acute tonsillitis, in about one case out of four, by the application to the inflamed gland, once or twice a day, of a sixty-grain solution of nitrate of silver, two or three applications usually being sufficient." Of this procedure I can but speak in the very highest terms in all forms of acute tonsillitis, and, in my mind, it should be placed above all other remedies. Dr. Ingalls' experience with guaiac is just as mine has been, and that is very unsatisfactory. He believes in sodium salicylate and bromide of potash. He recommends cold applications, both inside and outside, but also remarks that some patients are made uncomfortable by cold applications and then hot ones should be applied. He believes in promoting resolution if the abscess cannot be aborted.

Sajous says that we possess a remedy which is a specific in all

forms of tonsillitis, and that is the amoniated tincture of guaiac. He prescribes it as follows: one teaspoonful in half glass of milk, to be gargled in the throat and then swallowed. He also recommends lozenges of the resin of guaiac. He recommends a gargle of water, hot as can be borne, a procedure which I have long ago found to be a most excellent adjuvant for the relief of pain. As to the use of guaiac, I can but say that in my hands it has proved absolutely useless.

Lennox Browne considers guaiac to be almost a specific, and he says further that this action of guaiac "strengthens the rheumatic analogy." He is a great believer in large doses of salicylic acid. He says that sprays and inhalations are useless, while ice internally aggravates the pain. Like myself, he believes in hot gargles of some mild antiseptic solution. He considers the application of cold externally, by means of the Leiter coil, one of the most valuable local applications.

Bosworth thinks "that it is possible to abort an attack within the first twenty-four hours by giving ten grains of quinine and one grain opium, administering a hot foot-bath, evacuating the bowels by fifteen grains of calomel, to be followed by a saline purgative, and giving sodii salicylas and applying locally to the throat sodii bicarb." I must say that this is a most drastic remedy, and if the patient survives it, nothing short of a cure should be his reward.

Max Thorner recommends the administering of large doses of salol in addition to local applications. I am in full accord with this writer who expresses not much belief in cold applications, but says, "it is much better to begin early with hot fomentations around the neck, hot gargles and hot inhalations, in order to accelerate suppuration and to shorten in this way the duration of the disease."

Dr. C. E. Bean, in Burnett's System, says that he places more confidence in salicylate of soda than in any other remedy. He says that usually permanent relief will be obtained in twelve hours. He administers it in doses of fifteen grains every hour.

Gouguenheim, of Paris, has extolled the use of large doses of salol.

Let us now look to the surgical side of the treatment, where the abscess is either suspected to have formed, or at least shows all evidences of the same. I will first take the liberty of again quoting the opinions of those who have expressed themselves, and in conclusion will add my own practical ideas to this practical subject.

Ingalls says "pus should be evacuated as soon as discovered." He does not say where the incision should be made, how deep it should go, nor the most usual place for the bulging to occur. These points I consider of very practical value.

Sajous says that the abscess should be evacuated as soon as it is discovered by digital pressure and the incision is made through the tonsil.

Lennox Browne lays down the following rules, which I quote :

1. Never to inflict unnecessary pain by useless scarifications on the surface of the tonsil undergoing inflammation.
2. Never to make deep incisions unless there is almost certainty of advanced suppuration. The instrument for making the incision should be a curved-pointed bistoury, with not more than one inch of cutting edge, and the cut should be made from without inward, so as to avoid the not impossible risk of injuring an artery.

Bean says the abscess should be opened as soon as pus is detected and that it should be done with a bistoury, whose cutting edge is an inch long. He says also that the point for opening the abscess is usually "at the upper and anterior surface of the tonsil near the anterior palatine fold."

My observations certainly do not agree with this latter statement. Max Thorner also says that the abscess should be opened as soon as discovered, and gives the method of Stoerk for diagnosing the condition. The physician "puts the fingers of one hand externally under the angle of the lower jaw, pressing the skin and all the tissues inwardly, while the index-finger of the other hand moves slowly over the infiltrated parts, beginning high up on the soft palate and sliding downward toward the tongue." The sense of resistance is the criterion for the point to be opened. This is very good for a German method, but it is decidedly too rough for an American patient, as it frequently happens that you are fortunate if you can just get in the flat blade of a bistoury between the half-open mouth.

Moure, of Bordeaux, says "it is the rule to-day not to wait for the appearance of pus before incising the inflamed tissues." He says further that a peritonsillar abscess should be opened through the anterior pillar by a longitudinal incision.

O. Chiari also advises early incision, even when no pus is discovered, and says the abscess should be opened at the anterior pillar. My own experience certainly does not agree with that of the last two writers.

Gouguenheim, of Paris, deprecates too hearty operative measures in phlegmonous tonsillitis. He admits surgical intervention only in exceptional cases, and that is when the appearance of whitish transparent spots reveals the purulent focus.

My own treatment of peritonsillar abscess is governed by a rule which I have adopted in the treatment of all patients, and that is the

adapting of all treatment to the individual case and not the patient to the treatment. It is the extreme of folly for physicians to have fixed rules in the management of all cases. It might be highly proper in the case of a big, strong, lymphatic workingman to pick up your bistoury and plunge it into the abscess, press its sides and evacuate the same thoroughly, and he perhaps would hardly flinch. But suppose you undertook the same procedure in the case of a highly nervous and sensitive woman who would even faint at the sight of a knife? Besides, it is equally true that the formation of a peritonsillar abscess is not near so painful in some patients as in some others and therefore do not require such active surgical measures. As the majority of abscesses follow from a tonsillitis, my efforts are always to the abortion of this inflammation, and this I accomplish, if at all, by the administration of a good dose of calomel, followed by a saline purge. The tonsil and surrounding pillars are painted thoroughly with a sixty-grain solution of nitrate of silver, and this is repeated once daily. I start early with hot gargles of vinegar and water, as hot as can be borne, and then hot fomentations are applied externally. Salol and phenacetin always make the patient feel more comfortable, and for this reason alone I prescribe it.

Recently we have all seen the published reports of the wonderful effect of lactophenin in this condition. According to my experience it is no more good than so much sugar of milk. If, then, this does not abort the abscess I increase the use of hot remedies and wait until I detect fluctuation. In nervous and timid individuals I never try to open the abscess until it is so superficial that the slightest puncture will rupture its walls. Making deep incisions at random without finding pus is an unnecessary and barbarous treatment.

Nor have I ever opened a peritonsillar abscess at any point except above and posterior to the tonsil, notwithstanding such eminent authority as quoted above. Nor, furthermore, do I make deep incisions with a knife, but simply make a small puncture about one-eighth of an inch deep, and then with a strong probe in this opening I push it back into the triangular space described. If there is pus the probe will readily make its way and the presence of pus detected at the opening. If present, the superficial incision is enlarged and the abscess emptied by pressure. I do this rather than make a deep incision, because I have seen such an incision followed by severe hemorrhage and no pus found, and if the patient is at all nervous, be it man or woman, the sight of spitting out great clots of blood is extremely terrorizing. While writing this article I came across two references in *THE LARYNGOSCOPE* to articles by German laryngolo-

gists whose ideas correspond with mine. I quote the exact words translated from Killian's article: "Most of these abscesses are located in the depression above the tonsil (fossa supratonsillaris) and between the arches of the palate. To inspect this region the patient's tongue is extended and depressed.

"The commissure of the lip is retracted and the head inclined toward the shoulder of the diseased side. In an abscess of any considerable size, one can see an oval bulging of the affected side. This area is cocainized and by pressure upward and outward with a strong probe the abscess cavity can be reached. The opening is then dilated with forceps for several days and antiseptic gargles ordered."

Grunwald, in the *Muenchener Med. Woch.*, endorses this method and insists that an abscess that cannot be reached in this way has no connection with the tonsil. In support of this view, he reports an abscess of the anterior palatine arch and velum, due to a decayed molar tooth and its alveolus. This last view corresponds so entirely with my own that I feel like taking it as my own utterance. If any amount of pus has formed, noted by a swelling above and to the inner side of the tonsil, I can usually detect the point for opening by simply sliding a blunted probe over the surface and noting the point of greatest pain. My views correspond with those of Lennox Browne, and that is, never to do unnecessary cutting.

The question also arises, if the abscess is not opened will it open itself? It most assuredly would, but I have never waited for such a result to happen. In the first place, it might open while the patient was asleep and cause some dangerous symptoms. Such cases have been reported. Dr. Dunn, of Richmond, Va., has reported the case of a child three and one-half years old, where a peritonsillar abscess broke spontaneously, followed by such severe hemorrhage that the common carotid had to be ligated.

Norton has reported a case of acute suppurative tonsillitis in a girl of four years which ended fatally, the abscess having involved the carotid.

Thus we see that peritonsillar abscesses are by no means an insignificant affair. Every physician, no doubt, manages his cases differently, but after all we want to use those measures which will bring the best results.

Grand Opera House.

GAUZE PACKING FOR SUPPURATING EARS.*

BY ALICE EWING, M.D., CHICAGO, ILL.

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A little more than one year ago, at the suggestion of a professional friend, I began the treatment of chronic suppurative otitis media with gauze packing. The rationale of this method appealed to my reason so strongly, at once, that I wondered why it had not long before been thought of as the only strictly surgical measure to carry out in this disease.

All that I have seen in literature upon this subject is an article by Le Moyer, of Paris, published more than two years ago, in which he mentions the use of iodoform gauze in acute cases. I am under the impression, however, that it is being used to some extent by the profession, and all that I hope to gain by this paper is to emphasize its importance by giving my own experience with it, and my own positive convictions with regard to its superiority over other methods in use.

If the disease under consideration were confined to regions readily reached by the douche, or by the cotton applicator, it could be very easily disposed of; but, extending as it does to the cavities accessory to the middle ear, it is quite another matter. A moment's consideration of the anatomical structure of these cavities is sufficient to convince one that it is impossible to thoroughly cleanse them in any way except by radical surgical measures. We have to deal with a series of bony recesses, furnishing all the conditions necessary to support the life and growth of the pyogenic microbe; namely, a favorable temperature, a suitable culture soil, the blood serum from the capillaries of their lining mucous membrane, or from the diplöetic vessels, and a quiet retreat, out of harm's way. How can we most effectually invade these strongholds?

We have certain so-called antiseptic drugs. We know by actual experiment that solutions of certain strengths of carbolic acid, bichloride of mercury, etc., will stop the growth of, or render inert, cultures containing the various pathogenic germs when freely exposed to their action.

But what happens when a chronic suppurating ear is douched? The

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external auditory canal is cleansed, possibly. If the tympanic membrane has been destroyed the tympanic cavity may be rendered fairly clean, but in the attic, the antrum and the mastoid cells what occurs? A small quantity of pus may be washed out, a considerable quantity remains in, to which is added a proportionally small quantity of the douche, which may percolate down even to the lowest cell. If the douche is plain, sterilized water, has microbe life been hindered or helped? Suppose the douche carries in solution the bichloride of mercury. We know only approximately the chemistry of pus; we know that it is composed of the elements of the blood in a greater or less degree of decomposition; we know that all animal tissues are very unstable, readily giving up their constituents to unite with those of other bodies to form new compounds. Is it irrational to suppose that the whole quantity of the antiseptic agent may be exhausted by entering into chemical combination with the portion of pus which comes into immediate contact with it to form inert bodies? For example, with the fatty elements to form mercurial soap, or with the albuminous portions to form a coagulum, leaving plain H_2O , added to a good quantity of undisturbed pus and microbes. Suppose that peroxide of hydrogen is poured into the ear, the excess of oxygen is exhausted in decomposing pus, and we again have H_2O , plus pus and microbes, as before. What is more helpful to the growth of vegetable life than moisture? Every medical person has observed how aggravated a suppurating disease is in humid weather, and how much better in dry weather. Why does the grass on our lawns dry up and then freshen again as the weather is dry or rainy? I look upon douching a chronic suppurating ear as watering plants. The douche is unsurgical. Its universal use accounts for more hopelessly chronic cases than anything else. It has but one support—tradition. It is contra-indicated in every case in which the drum membrane is not intact.

If microbe life cannot be destroyed in the attic, the antrum and the cells by antiseptics, in the form of watery solutions, what idea can be carried out? Simple drainage. It cannot be hoped to drain out the last pus cell, or the last microbe, but moisture may be withdrawn to the extent that they perish for want of it.

I could cite a number of cases in which gauze packing has succeeded when, seemingly, all other methods had failed. I will mention two, however, which have not been cured, because they illustrate better the points which I wish to bring out.

Case 1. A boy, seven and one-half years of age, came to our clinic for the first time one and a half years ago with the following history: A

puny baby, with suppuration of both ears at three months of age, which was apparently cured; measles at one year of age, followed by suppuration of both ears, which has continued down to date. There was total destruction of both membranes when he appeared at the clinic, the promontories were covered with an abundance of soft granulation tissue; there was a profuse discharge of foul-smelling pus from the ears, and marked loss of hearing. For six months I worked faithfully with everything that I had ever heard of being used, with temporary improvement and then relapses. Then I began packing three times a week with iodoform gauze, after having cauterized the granulations thoroughly. For a time improvement was quite marked, but when the humid days of summer came the treatment had little effect. He would return to the clinic with bloody, foul pus draining through the gauze and running down the neck. A radical operation on both sides was advised, but the parents declined. I then commenced packing each day, including Sundays. Both canals were packed firmly, the conchæ were filled with gauze, a pad of absorbent cotton placed over this and held in place by a netting bandage. At first the whole quantity of gauze was saturated, and even the cotton pad, but the discharge began promptly to decrease, and at the end of five weeks it had apparently ceased. Packing was continued for some weeks, when he disappeared from the clinic. In January he returned, with a little thick pus in both ears. It has been necessary to keep a small piece of the gauze in the ears most of the time since. A little attention, however, keeps them in check, and for the first time in his life, and he is now nine years of age, he has been able to go to school without interruption.

I do not think that suppuration has ever been completely arrested, and I doubt if it can be entirely eradicated without surgical measures, but feel confident that this treatment has accomplished more than anything else could have done. I also feel confident that if douching were again instituted the old condition of things would supervene. The infection remains, the culture supply remains, but the constant drainage keeps the moisture insufficient, and microbe life is thus kept at a low ebb.

This idea is in accordance with the principles of modern surgery. The general surgeon douches the open joint, then dries thoroughly before closing, and he has little excuse for sepsis; but in abdominal surgery the douche has been abandoned, even if an abscess or cyst is accidentally evacuated into the abdominal cavity, gauze drainage is considered the safer measure, for the reason that, owing to the contents of the abdominal cavity, all parts cannot be thoroughly exposed

to the action of the antiseptic fluid, and thoroughly dried. The peroxide of hydrogen is no longer used in the suppurating abdominal wound, the dry dressing and gauze drainage being more successful.

One of my instructors in Vienna said: "If you forget everything else that you have heard from me, remember never to douche the traumatic-ruptured drum membrane; if you do, it is sure to suppurate; if you let it alone it is sure to heal. The infection is in the external auditory canal, and blood serum is in abundance from the contused tissue, but if left dry it soon dessicates." I had an opportunity to see this verified, as a number of cases had been syringed before coming to the clinic, or were accidentally syringed by the attendants.

Those who believe that the douche has a place in the treatment of these cases, avoid its use to clean out powder and epithelium from the external canal in cases in which suppuration has ceased under dry treatment, for fear of starting it again. I maintain that if douching will start suppuration, when it has apparently ceased, it will help to keep it up when it has not ceased.

As to the preparation of gauze employed, one must use some discretion. The iodoform, on the whole, has given me the best results, but in some cases an eczema has been occasioned, and in a few tenderness and swelling of the canals, enlargement of the glands about the ear, and, in one, even constitutional symptoms. In these the bichloride or borated gauze may be substituted.

Case 2. A boy, eight years of age, presented at the clinic January 15 last; had had suppuration of both ears for three years, following scarlet fever. Had been in fair general health till two weeks previously. He was pale and weak, complained of frontal headache, sleeplessness, loss of appetite, and had some elevation of temperature and profuse sweating at night. He was referred to the general medical clinic for examination, and was returned with the diagnosis of slight general sepsis, from absorption from the ears. A little tonic was prescribed, and packing of the ears with iodoform gauze, on alternate days, was commenced. Improvement was marked at once. He had a large quantity of adenoid growths in his naso-pharynx, which were removed when he was strong enough to bear the operation, and he was soon quite well.

The suppuration diminished slowly, and after a few weeks of treatment it seemed necessary to pack every day. After a week of daily packing his canals became red, swollen and sensitive, the glands about the ears enlarged; he complained of frontal headache, sleeplessness and loss of appetite. The ears were packed with plain gauze for a few days and these symptoms disappeared; then bichlo-

ride gauze was employed, but symptoms of poisoning returned, and plain gauze, dried out and scorched a little in the flame, was substituted. Improvement is going on nicely, and I am quite positive that within a short time the suppuration will cease.

If this treatment had nothing else to recommend it, the saving of time would place it above all other forms of treatment. If correctly carried out, the pressure of the gauze upon the diseased surface will keep granulation from returning. In most cases the exfoliated epithelium comes out with the packing, and it is only necessary to repack, or possibly dry out, with a tuft of cotton. It is also convenient for home treatment. People of only small intelligence can be taught to wind the gauze around a toothpick and insert it into the ear fairly well.

In recapitulation, the gauze packing is more correct in principle and more satisfactory in practice than anything in use in the treatment of chronic suppurating otitis media.

Incurable cases can be kept more comfortable with this than anything else. It saves the time of the specialist.

It is suitable and safe for home treatment. It has no contra-indications.

A Case of Extreme Deafness in Which Great Improvement in the Hearing Followed the Use of Pilocarpine.

Dr. Gorham Bacon, of New York, reports the case of a male patient of thirty-three years who, when first seen, had both tympanic membranes destroyed, and the ossicles bound down by adhesions. (*New York Medical Journal*). There was a slight discharge from the ears. Under the hypodermic injection of pilocarpine, the patient, who had formerly been able to hear only by means of a trumpet, could now hear the raised voice at a distance of one and a half feet. The remnants of the drum-head and ossicles were then removed, this being followed by greater improvement in the hearing.

The author has obtained the best results from pilocarpine in cases of sudden deafness due to syphilis.

SCHEPPEGRELL.

MASTOIDITIS IN A FIVE-MONTHS-OLD BABY—OPERATION—RECOVERY.

BY GEO. F. KEIPER, LAFAYETTE, IND.

The case herewith presented is interesting in several particulars: First—Because it is probably one of the youngest patients ever operated upon for mastoiditis.

Second—It demonstrates that purulent otitis media in a baby of that age is one of the most dangerous conditions imaginable. The sutures between the cranial bones are very incomplete, while the inner cranial table is very thin. Moreover, the blood supply in the mastoid antrum and tympanic vault is very free, and the relation of the blood supply to the venous channels of the cranium is very intimate. Hence often the presence of meningitis in babies afflicted thus.

Third—Because physicians should make it their duty to instruct parents that earache in young children is dangerous and that the instillation of the old-time mixture of laudanum and sweet oil does not cure, but often masks a process which may cost a life.

On February 14, 1898, Mrs. Herman Bylsma came to the office with her five-months-old baby girl, which the mother nurses.

The family history is excellent, and the baby is the fifth of a line of very healthy children. A month previously, after a severe earache, the baby's right ear began to discharge pus, to which no particular attention was paid, save to drop into the ear a mixture of sweet oil and laudanum to control the pain. She noticed a swelling forming, several days thereafter, which gradually increased in size until her visit to the office. She poulticed it. No result. At the time of the visit, the condition was as follows: The auricle stood at a right angle, with the head behind, which was an immense swelling about the size of a hen's egg, filled with pus. The ear discharged pus. After examination, she was informed of the nature of the trouble and an immediate operation advised, which advice was accepted. At 11:30, the same morning, in company with Drs. Geo. F. Beasley, M. M. Lairy, E. Rodenhins, G. K. Throckmorton and Adah McMahan, we went to the child's home. There after careful preparation, an incision was made; small at first, to drain out several ounces of pus, and enlarged afterward, to gain a clear view of the mastoid process. The bone was found carious, with a small sinus leading into it. This was enlarged by cutting away all dead bone

until healthy bone was reached in all directions. A cavity was thus made in the bone large enough to put the tip of the index finger to its bottom. The wound was packed with bichloride gauze and a pressure bandage put on. The dressings were removed every day for a few days, and then less frequently until March 10th, when they were removed for good, because the wound was entirely closed up.

On February 20th, the left ear began to discharge, but by cleansing and dry-dressing it with boric acid powder, the discharge ceased promptly, thus showing what might have been done had the first ear received prompt attention.

Peculiar Lodgement of a Fish Bone. (*N. Y. Medical Journal*, Feb. 19, 1898.) Dr. M. D. Magee, Washington.

The patient, a male, complained of pain and uneasiness in throat after swallowing fish bone. Nothing unusual was noticed on ocular examination. Finger revealed distinct pricking sensation in passing over right tonsil. Small white speck in a tonsillar crypt was seen, which, in being withdrawn, proved to be a semi-circular piece of fish bone, half an inch in length. Pain was mostly confined to the right ear.

LEDERMAN.

Empyema of the Antrum in a Child Three Weeks Old.

Alexander Douglas (*Australian Medical Gazette*, December 20, 1897) reports the case of an infant of three weeks, brought to him on account of an inflamed eye.

The right cheek was swollen, right eyeball protruded, eyelids hyperæmic and conjunctiva congested. On examining the mouth, the right side of the roof was seen bulging into the mouth. The superior maxilla was prominent in every direction. Pressure over the cheek caused pus to exude from the right nostril. The diagnosis was empyema of the antrum.

An opening was made inside the mouth, external to the alveolus, and pus flowed freely. Subsequently the cavity was washed out by syringing through the opening in the mouth with boracic lotion.

The case did well, the threatened bursting of the abscess into the orbital region being averted; the distortion of the right side of the face gradually disappeared, and the right eye was practically returned to the normal level. The child fully recovered.

EATON.

MASTOIDECTOMY, INVOLVING LATERAL SINUS COMPLICATIONS.*

BY J. O. STILLSON, A.M., M.D., INDIANAPOLIS, IND.

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Operative interference in cases of infective thrombosis of the lateral sinus, and sub-dural abscess, resulting from neglected mastoid disease, or as a complication in acute mastoiditis following intra-tympanic inflammation or traumatism, is a procedure no longer to be classed among the rarities in surgery, and yet it is of sufficient interest to justify the report of the following cases which occurred in the practice of the writer during the year: The vantage ground gained by recent researches, and the light thrown upon the subject by recent operative experiences, have opened up a field of interest here which is scarcely to be equalled in any other department of surgery. The dreadful nightmare of hemorrhage from the lateral sinus, the superstitious handwriting on the inner wall of the cerebral cavity, "*Noli me tangere*," however much it brought terror to the heart in other times, no longer disturbs the modern surgeon, but on the other hand, gives him additional interest as something new in scientific technique.

We can, many of us, remember how great a mistake it once was all but considered to be, to accidentally cut into the lateral sinus. The opening of so large a venous cavity—where all thought of ligation was out of the question—meant uncontrollable hemorrhage. The thought of purposely invading the intra-cranial lining of the sinus for the purpose of cleaning out a thrombic clot, or for exploratory reasons, even where ample evidence otherwise seemed to prove the presence of pus in this vicinity, was little less than surgical sacrilege, akin to wanton penetration into the inner temple of the Holy of Holies, where none but the high priest dared ever go. The evolution of the mastoid operation took time. The surgical technique, including the best antiseptic precautions, brought this operation

*Read before the Western Ophthalmologic and O o-Laryngologic Association at Chicago, Ill., April 8, 1898.

within a decade up to a high degree of perfection. Results were obtained, which had never been dreamed of before; and otology received an impulse, which lifted it out of the slough of despond. Ears were saved, and lives were saved which formerly had been abandoned as without hope.

Still the aurist was told that he must keep out of the cranium. He could go into the attic, but he must be careful not to fall over the hatchway down the back stairway into the cellar of the cerebral fossa; and above all things, must he not miss his way when he got into the antrum, and penetrate the sinus sigmoideus, that chamber of darkness, that Catacomb of Death. Here the aurist dare not enter; only the surgeon and seldom he. But the now perfected mastoidectomy, even with its tympanic communication, established under the best antiseptic measures, beneficial as that had proved to be, left more to be desired. Growing out of this fact, and further, as the journalistic literature in the early nineties, now and then gave reports of openings having occasionally been made into the sinus, sometimes unintentional, at other times by design, and where plugging had been reported, we find such writers as Hoffman¹, Lane², Parker³, Macewen⁴, Knapp and others, advocating a radical departure from timid methods and a more thorough and searching use of the chisel and trephine. In justification of the time honored, though forgotten injunction, "*That wherever there is pus it should be evacuated*," the inner table of the skull was to be removed, and even the brain itself was to be attacked, if necessary. Results have justified this innovation.

The writer begs leave to refer here thankfully to Dr. C. Bark⁵, of St. Louis, for a reprint of his two cases, and for the valuable historical table which he gives, showing statistics of 124 cases done by various operators, with 84 per cent of recoveries, which may be considered as flattering indeed when we remember the fact that without operation in these 124 cases probably 100 would have died. Further mention is to be made of the writings of Dench⁶, Hardie⁷, Milligan⁸, Alderton⁹, and others which have added very materially to our stock of knowledge in this field during the past few years. The writer begs leave to report three cases; two operative, in which recovery took place, and one, where operation was refused, which resulted fatally, unfortunately no post-mortem was obtained in this case, but the diagnosis could scarcely have erred, and judging from other similar cases, it is to be reasonably surmised that however grave the symptoms, the best means of relief lay in an operation, involving both mastoid and cranium, in which event a more favorable out-

come of the case was to have been expected. Following are the cases:

Case I. Repeated Aural Abscess—Two Mastoid Operations, Followed by Necrosis over the Sigmoid Sinus—Third Operation Involving the Lateral Sinus—Complete Removal of the Tegmen-tum of Attic—Recovery—In this Case the Jugular was not Ligated.

Florence M., aged twelve years, of healthy parentage, somewhat illy nourished, and reduced in flesh and strength, was admitted to the Eleanor Hospital for Children, May, 1897. There was a large fluctuating tumor behind the left ear about the size of a pullet's egg. The auricle was displaced forward; the parts were exceedingly sensitive and tender from inflammation. Around the mass there was an extensive ring of induration; from the zygoma all around the auricle and down to the tip of the mastoid; some hardness in the stylo mastoid fossa; and an offensive fetid discharge from the ear. Drum membrane perforated, soft granulations protruding through the fairly large perforation. The ossiculæ were in place; membrane in front of malleus can be seen; is of a dull grayish dead color, but necrosis of membrane limited to the posterior inferior quadrant. Has had many "bealings" for about four or five years; resulted from cold and "earache."

Operation First.—About a year ago was operated on by a local surgeon of good repute. The nature of this operation it is not easy to determine; but from the description given by the mother, it was probably a mastoid operation. She states that the cutting was done behind the ear, and nothing was done to the canal or drum. The child at first improved after the operation, but later grew worse again, and for the last few weeks has suffered very greatly most of the time.

Operation Second.—Under general anæsthesia a free incision was made behind the auricle, extending the full length, from the tip of the mastoid around to the area above the external meatus. Extensive burroughing beneath the muscular tissue was found. An egg-shell full of thick greenish fetid pus was evacuated. The periosteum over the mastoid was found necrosed. An opening was readily made with the gouge, and by means of a curette a quantity of granular necrosis was scraped out.

The necrosis extended upward. Further scraping was done, and from the middle ear some granular necrosis was removed with small curette. A stream of water was passed through, the back wall of the antrum was cautiously scraped out and the whole cavity was then dried out and packed with iodoform gauze. The recovery was rapid

and uneventful. The case remained around the hospital a month or two and was regarded as well, when later in the summer, *August 15*, my attention was again called to the case by the nurse and a rapid engorgement and refilling of the locality with pus was reported. Great tenderness and swelling was now apparent all round the ear. There was no discharge. Temperature $101\frac{1}{2}^{\circ}$, much pain, restlessness and worry. A marked change in the disposition of the patient had been observed. She is peevish, morose, fussy. Has been so for some weeks. During the next few days from the above date there was periodical rise and fall of the temperature, intense headache, anorexia, marked changes in the character and disposition and some signs of delirium. A peculiar expression of terror and dread pallors the face.

Operation Third.—It was therefore deemed advisable to operate again. No positive signs of general sepsis having shown themselves, the ligation of the jugular was not deemed imperative. Upon reopening the antrum a new mass of granulation tissue was found and considerable necrosis of the external table discovered, which possibly had been overlooked before. There was necrosis at the bottom of the antrum, respectively the inner side next to the sigmoid sinus. While scraping and curetting, the instrument went through into the cranial cavity. A lifter was now inserted and by upward prizing, lever fashion, with the bony edge as a fulcrum, the necrotic bone was removed piecemeal clear around to the attic. Some excavation was made in the axis of the petrous portion of the temporal bone. The dura mater at the sinus was dark blue. It was opened. Some clots and ichorous sanguinolent fluid discharged. The lower body of the mastoid was preserved, as well as the outer wall of the meatus; but upward and around the meatus, much decayed periosteum and necrosis of the external table was removed to the attic which was again curetted. The whole wound was dried by wiping, after bichloride irrigation, packed with iodoform gauze and the bandage applied. The temperature that evening fell to normal. It remained with from 1° to $1\frac{1}{2}^{\circ}$ variation for a few days, and an uneventful recovery followed. There is now some useful hearing in that ear. Watch, ten feet.

Case II. Aural Abscess—Perforation of Drum by Paracentesis—Cessation of Discharge—Relapse—Lateral Sinus Involvement.

W. S., age twenty-six, German, strong, athletic young man, was complaining of severe headache and aural pain. He was feverish and weak from suffering. His family history was good; both parents

living; no tubercle, no specific history. Was himself never sick until two months ago, when after an attack of influenza he had pains in the left ear, followed by discharge which kept up till about a week ago, when the discharge ceased. Had a chill Thursday and after that fever, accompanied with dizziness and tenderness around and behind ear. Bowels sluggish, tongue furred and dry. His voice indicates some nasal obstruction, but he does not complain of any nasal trouble; does not think he has ever had catarrh. Temperature $101\frac{3}{10}^{\circ}$. Membrana flaccida tense, bulging, meatus swollen, induration fairly well pronounced around auricle. Ordered salines, leeches to anterior part of meatus and over mastoid; saline laxatives to be followed by bromides. The following day, although the leeching had resulted in ample local depletion, and saline had acted well, there was the characteristic temperature, which foreboded trouble, and much pain in and around the ear. Accordingly a paracentesis of the membrana tympani was made behind the malleus handle; this was followed by some bleeding and a discharge of pus, which, however, was not free. Hot applications and the internal administration of ergot and bromides were ordered. This condition of affairs continued for some days and the temperature, as indicated by the following table, rose every evening and fell every morning, varying from 100° to $103\frac{1}{2}^{\circ}$, never becoming normal:

On the 18th, five days after the paracentesis of the membrana tympani, an operation on the mastoid was advised but refused by the friends of the patient. From this time on the symptoms became more and more pronounced; swelling in the neck and stylo-mastoid region indicating thrombosis, probably in the upper portion of the jugular or sinus. Transient delirium with excessive pain and tendency to refer the trouble to the occiput, led to the conclusion that either subdural abscess or sinus involvement was at the bottom. Hoping still each day to get an operation, the treatment was kept up; but, to my great astonishment, on the 26th the young man's parents had removed him from the hospital. Two days later I learned from the physician, into whose hands he had fallen, that he had died after deep coma, which had already set in when he arrived at his home. No post-mortem could be obtained, I regret to say.

Case III. Little Miss, aged thirteen years—Otitic Cerebral Abscess—Operation Mastoid—Removal Sinus Clot—Ligation Jugular—Recovery.

A fetid carious middle ear disturbance had existed six years; it supervened as sequela after scarlatina. Much treatment had been had without lasting results. January 20th, 1898, after a week's in-

disposition, malaise, anorexia and chill, seven days ago discharge ceased. This was followed by fever, swelling, pain and great tenderness in neck and ear. External auditory canal small, swollen and almost occluded. After syringing, removed with curette small polypoid granulations from bottom of canal and tympanum; necrosis; fetid sanguino-purulent discharge following operation on tympanum and canal; however no marked decrease in tumefaction and swelling of neck. Salines, leeches, followed by a supporting diet five or six days; great tenderness over mastoid; temperature 101° to $103\frac{1}{2}^{\circ}$. January 26th, vomiting, flighty; mother reports spasm during night. Tenderness in axilla; no positive abscess in this locality, yet lymphatics of neck hard and swollen; discharge from ear not satisfactory; no air through Eustachian tubes; fauces and nasal mucous membrane swollen; both tonsils large; wild uneasy look to patients countenance; pupils rather large. Ophthalmoscope shows optic papillae not complicated; some dread of light, and much headache.

Operation, January 28th.—Complete curettement of mastoid cells; much necrotic granular tissue removed; communication with attic established; but no flow of pus demonstrated, and it was deemed advisable to explore further. On account of the general indications of threatened sepsis it was deemed advisable to ligate the jugular. This was done by dissecting down along the anterior border of the sterno-cleido-mastoideus and between that and the lower border of the posterior belly of the digastric. After exposing the sheath and separating the vein, two ligatures were thrown around it, an inch apart, and the vessel severed between the ligatures. The lateral sinus was then exposed by chipping away the internal table with elevator and forceps. Aspiration with a needle; sanguinolent wheyish exudate. The sinus was then laid open freely, considerable more exudate and a thrombic clot evacuated. This was followed by some oozing of blood which at first appeared threatening, but with tamponing and drying out with cotton became less. The whole field of operation was then sterilized with dilute bichloride solution irrigation, followed by packing with iodoform gauze; tight roller bandage over all. This patient made a good recovery from the operation; the following day temperature 101° ; after the third day normal. There were no subsequent unfavorable symptoms and the patient made an uneventful recovery. At the end of three months now the patient has remained well; there has been no further discharge. There is no improvement in the hearing, but that was probably lost before the last onset of the inflammation.

In summing up the considerations of this interesting subject the writer is of the opinion that a bolder and more radical surgery in the light of modern antiseptic measures is destined to replace the former timid conservatism, which has cost so many lives. The lateral sinus presents no greater difficulties to operative interference, than many other portions of the brain when occasion demands. It should be opened when a clot can be demonstrated with reasonable certainty to exist, and without hesitation when pus is known to be present. Ligation of the jugular should be done in certain cases not for the sake of facilitating the operation, but as a means of preventing at least one source of general infection and sepsis. Like every other valuable surgical procedure, it should be done in time to give the patient the benefit of its value. Procrastination adds to the dangers and diminishes proportionately the hopes for cure, which the operation offers.

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 18. Mastoid Suppuration et Sinus Pyaem.; Robson Leeds, Hardie, Ann. Otol., Vol. vi, p. 195.
 19. Cerebellar Abscess et Mastoid Dis.; Hardie, Ann. Otol., Vol. vi, p. 194.
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NEW INSTRUMENTS.

FORCEPS FOR NASO-PHARYNGEAL ADENOIDS.

BY ST. CLAIR THOMSON, M.D., LONDON; F.R.C.S., ENGLAND.

Of the various modifications which have been effected in the shape of the post-nasal forceps, originally made by Löwenberg, I think the one designed by Jurasz has not met with the attention it deserves. In this form the extent of the cutting surface and the size of the



fenestræ allow of large portions of the growth being grasped, so that very few introductions of the instrument are required. I venture to think that in common with most forceps used in the removal of these growths those of Jurasz are unnecessarily large, long and heavy. In the pair which Messrs. Mayer and Meltzer have made for me, the instrument only weighs one ounce instead of three and a half ounces, and in a straight line it measures six inches instead of ten and a half inches. The hinge is of a different construction, allowing the instru-



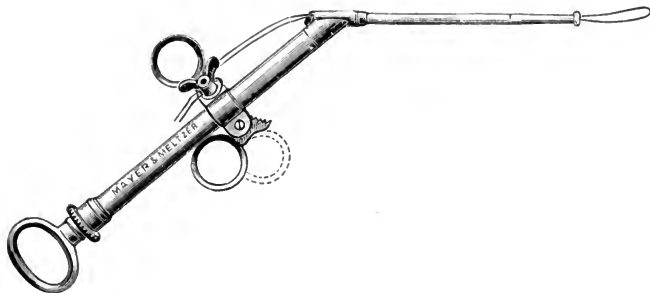
ment to be easily taken to pieces to be purified, and at the same time so arranged as to diminish any risk of the uvula being caught in the joint. The slighter build leaves more room for the index finger to be manipulated along with the forceps in the post-nasal space, while the shorter handles give more power. I have found this six-inch pair sufficiently large for patients up to sixteen years of age. The forceps have also been made with straight handles, as in Ruault's modifications, for those who may prefer this form.

Queen Anne street, London, W.

A NEW SNARE FOR NOSE, THROAT AND EAR WORK.

BY H. LAMBERT LACK, M.D., LONDON; F.R.C.S., ENG.

For many operations in the nose and throat a snare is needed which can be tightened up either rapidly or slowly. In many cases, as for the removal of certain forms of enlarged tonsils, inferior turbinate hypertrophies, fibrous growths, etc., it is of great importance to be able to draw the wire loop rapidly tight so as to grasp the growth firmly in position and then cut through it slowly. At the same time the snare must be strong enough, and must carry a wire sufficiently thick to cut through the growth, however tough it may be. I believe the snare here illustrated will be found to answer most of the above requirements. Its mechanism will be easily understood from the ac-



companying illustration. The wire loop is tightened at first by drawing on the finger loops, and then when a slow action or more force is required a screw action can be brought into play by releasing the lower finger loop. The instrument is very simple and strong in all its parts; it is made entirely of metal and can be taken to pieces for cleaning, etc. The wire loop can be quickly and easily attached and is very firmly fixed. The snare works noiselessly.

To increase the general usefulness of the instrument I have had it made with three ends, a strong barrel for very tough growths, a very fine end for aural use, for nasal polypi and other soft growths, and a curved end for use in the larynx and post-nasal space.

I am greatly indebted to an engineering friend, Mr. Bingham, for much help and for designing the method by which the screw is brought into action, and to Messrs. Mayer & Meltzer who have made the instrument for me.

Welbeck St., London, W.

TWO NEW INSTRUMENTS FOR APPLYING THERMAL TREATMENT TO THE MUCOUS MEMBRANE OF THE NOSE.

BY EMIL AMBERG, M.D., CHICAGO, ILL.

Former House Surgeon, Massachusetts Charitable Eye and Ear Infirmary, of Boston, Mass.

In the treatment of diseases of the nasal mucous membrane, our efforts have been directed, first, to coping with the disease itself, and secondly by direct stimulation of the tissues to cause a vigorous and healthy reaction. In carrying out these two factors a great variety of measures have been adopted. I should like to add to these methods a new one, a pure thermal treatment, applied by the aid of instruments constructed for the purpose.

Figures A and B show two new instruments for the thermal or thermal and medicinal treatment of the mucous membrane of the nose. The instrument represented by Fig. A is made up of a continuous hollow tube, bent upon itself at the apex, furnishing in this way a supplying and returning tube, the two being bound together, leaving a smooth surface.



FIG. A.



FIG. B.

The instrument represented by Fig. B is a flat, hollow tube, perforated on the upper side, to be used in applying heat in the form of steam, or to be attached to the nebulizer.

The first instrument (Fig. A), similar to a Leiter's coil, is to be used for applying warmth and cold, either dry or moist; the latter after the instrument has been covered with gauze.

The second instrument (Fig. B) is a modified tip for applying either dry, warm or cold air, or air mixed with the medicines in use.

So far the author has made the following observation in a case of ozæna: After the nasal cavity had been moistened with the borax spray, the instrument A was introduced into the lower nasal passage and kept there, at a temperature comfortable to the patient, for about ten minutes, keeping it, if possible, in contact with the crusts. When the instrument was taken out, the crusts were found firmly attached to it, having thus been easily removed from the nasal cavity.

The instruments were made by H. Pfau, Berlin.

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THE LARYNGOSCOPE.

P. O. Box 787, St. Louis, Mo., U. S. A.

EDITORIAL.

WHAT IS THE BEST OPERATION FOR "ADENOIDS?"

The diligent reader of rhinological literature can hardly have failed to notice that for the removal of the masses of lymphoid tissue in the naso-pharynx, commonly termed "adenoids," very different operative procedures are advocated. Galvano-cautery, the cold snare, curettment, forceps, each has its supporters. Some operators seldom use an anæsthetic, others invariably do. The position of the patient is as various as the operative features, some surgeons preferring the sitting posture, others what might be termed the recumbent semi-prone, and others again to have the vertex dependent, etc.

The use of Gottstein's currette as the main dependence appears to prevail as against the use of cutting forceps, though many operators

combine their use. Dependence upon the curette alone appears to be irrational, and, in fact, has been deceptive in its results by reason of the structure of the lymphoid growths. The lymphoid portions of these are held together and attached to the vault by fibrous and vascular tissue, forming sessile pedicles and septa, a sort of placenta, varying very much in its extent and firmness. Now, when this fibrous tissue prevails and the growth is therefore termed "tough" and fibrous, it is not reasonable to expect that an instrument like Gottstein's forceps, which scrapes rather than cuts the growth, will thoroughly remove it. A small, strong, sharp forefinger nail, such as possessed by some surgeons, is eminently superior to Gottstein's instrument, especially in curetting out the narrow recesses on the wall of the space anterior to the Eustachian prominences and at the entrance of the choanæ; yet it is well known that the portions of fibrous pedicle and lymphoid tissue left after its use often lead to a return of the growth. These cannot be thoroughly removed by even a very strong finger nail, much less by a curette scraping over the surface. Some form of cutting forceps is necessary. Such forceps undoubtedly require more skill and care for their use than the curette, but then, skill, care and deliberation are far more necessary for the proper performance of the operation than is generally supposed.

With many operators "ignorance is bliss;" for, after a hasty operation with the curette, during which the phenomenal hemorrhage encourages them to believe they have been heroically thorough, they fail to explore the cavity a week or two after, and to discover that close to the choanæ a considerable mass yet blocks the way and nasal breathing is still obstructed.

Haste in operating is mainly due to the very free hemorrhage and its menace to respiration. Hence it appears wise to place the patient semi-prone with the head sufficiently dependent, and to proceed quickly, but without haste. This, of course, necessitates complete anæsthesia, and sufficiently profound to insure the quietness of the patient, say for from five to eight minutes, during which time the finger nail and curette can be rapidly used, to be followed by the proper cutting forceps guided along the left forefinger, which (surgeon on the right of the patient) hooks forward the soft palate and constantly touches the sharp edge of the vomer.

The only fairly practicable way of telling whether all the vegetations have been removed is by palpitation, and this must be carefully done, or otherwise portions will escape detection.

The above observations are in accord with the experience of many competent operators, and are believed to be in accordance with those

general surgical principles which insure safety and success, whereas the methods pursued by many operators are neither safe nor successful. There appears at present to be too much stress laid upon rapidity of operating and brief anæsthesia, and too little upon the difficulties and dangers attendant upon the complete removal of some of these growths.

No matter how complete the operation appears to have been, a careful examination of the naso-pharynx should invariably be made a week or two afterward.

EATON.

ANNOUNCEMENT.

In compliance with numerous requests from our enthusiastic supporters, and in recognition of the progressive spirit which is making its presence felt in medical journalism, the editors of *THE LARYNGOSCOPE* have arranged, as previously announced, to direct more attention to the *ABSTRACT DEPARTMENT* of the journal.

We point with pride to the large and excellent series of original communications which have occupied our pages in the past, and we would also express our appreciation to the many representative writers and authorities in oto-laryngology who have given us their active literary support. Though *THE LARYNGOSCOPE* is the youngest journal of its class, yet we cannot refrain from expressing, with due modesty, that we have furnished our readers with more original communications during the past season than any of our contemporaries, devoted to oto-laryngology, in the world.

Our present efforts are directed to establish *THE LARYNGOSCOPE* as an *INTERNATIONAL JOURNAL OF RECORD* of the specialties which it represents.

The most recent step in this direction has been to arrange a complete *BIBLIOGRAPHY* and *ABSTRACT DEPARTMENT*, to include a resumé of the entire journal literature of otology, rhinology and laryngology. To this end our entire editorial staff has been actively interested, and the reader who will now carefully scan the pages of *THE LARYNGOSCOPE* from month to month, will find his time thoroughly occupied, for it will be our aim to include a mention of every oto-laryngological article contributed to the original columns of the medical journals of the world.

While many of our abstracts may be brief, those readers who may be interested in the details of some particular paper, will find accurate references facilitating further search.

We earnestly request authors of papers to give us early notice of any omissions in the publication of abstracts.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, April 27, 1898.

Dr. Jonathan Wright, Chairman;

Dr. Thos. J. Harris, Secretary.

Tubercular Ulceration of Larynx, Naso-Pharynx and Tympanum.

Dr. Wendell C. Phillips presented a man, twenty-six years of age, a native of Japan, who had been referred to him by Dr. George R. Elliott, on March 24, 1898. He had had cough and some expectoration since October, 1897, but had lost very little flesh. He had been given creosote by the mouth, and applications of lactic acid had been made to the larynx. Two years previously he had what was supposed to be a chancroid. Examination showed an ulceration confined to the right side of the larynx, and not affecting the epiglottis. The marked characteristic of the ulceration was the almost total absence of infiltration. Deglutition was not painful, and there was only slight pain on phonation. An ulcer of moderate size was discovered in the vault of the pharynx, just posterior to the vomer, and extending to the fossa of Rosenmüller upon either side. About January 1, his right ear began to discharge, and had continued to do so. The otorrhœa came on without pain. There is extensive destruction of the membrana tympani. The physical examination of the lungs showed them to be normal except for slight consolidation at the left apex, with slight prolongation of expiration. There had been moderate night-sweats, but practically no emaciation or rise of temperature. The sputum contained a few tubercle bacilli. The patient had been taking creosote continuously since December, and for the past month gradually increasing doses of potassium iodide. At present he was taking twenty-five minims of the saturated solution, three times a day. He had also been given full doses of iron. The expectoration had been reduced one-half, and while the ulceration had not extended, there seemed to have been some increase in the infiltration. Mercurial inunctions had recently been begun, but so far with no definite result. Although apparently not improved, his general health had certainly not deteriorated. Dr. Phillips said that the appearance of the ulceration seemed to him more characteristic of syphilis than of tuberculosis. He had used no local treatment.

Dr. Wolff Freudenthal said that he felt quite confident that the ulceration in the larynx was specific, and that the ulcer in the nasopharynx was of the same nature. He had seen quite a number of cases of tubercular ulceration of the latter region, and in these cases there had always been pain present. It was probable that in the case under discussion the man had acquired tuberculosis of the lungs afterward.

Dr. Phillips said that his patient had night-sweats, and a few tubercle bacilli had been found in his sputum, but this, in itself, did not necessarily prove the existence of pulmonary tuberculosis, and certainly the physical signs hardly justified such a diagnosis. He had made no applications to those ulcerations because he had inclined to the view that the disease was syphilitic.

Dr. Francis J. Quinlan said he had recently seen a case with well marked tumefaction of the arytenoids which exhibited the initial stage of tuberculosis. One side of the larynx was intact; on the other side there was a peculiar hypertrophy of the false cords, and in the center of these bands was a slight ulceration. There were very few subjective symptoms. The sputum had been examined with negative results. The patient was then presented.

A Device for Applying Vaseline to the Nose.

Dr. T. Passmore Berens exhibited a simple and original device for applying vaseline in its solid form to the nose. It consists of a T-tube with an attachment for screwing it onto the head of an ordinary vaseline tube. By squeezing the tube a little vaseline is pressed up into the T-tube, and then by suddenly compressing an ordinary rubber bulb attached to one limb of this T-tube the vaseline is projected into the nose with considerable force.

A Cyst of the Epiglottis.

Dr. Robert C. Myles exhibited two cysts which he had removed from the anterior surfaces of epiglottises. One was so large that the patient had had difficulty in swallowing and breathing. The removals were effected with the snare, with the object of removing them completely and so preventing recurrence.

Excessive Orbital Cellulitis Following an Operation for Nasal Polypi.

Dr. T. J. Harris presented a woman, about thirty years of age, who came to his service at the Manhattan Eye and Ear Hospital with the usual symptoms of nasal occlusion from polypi. He found that every time he removed a polyp it caused excruciating pain in the

frontal region. Accordingly, after about two weeks, he had determined to give a general anæsthetic and remove all the polyp tissue at one operation. It was found at the operation that the polypi involved all the sinuses, as far as could be discovered—certainly both ethmoidal sinuses were completely filled, and it extended into the sphenoidal sinus. With a cold snare he had endeavored to remove these first, and then, with the disinfected finger, he had explored the sphenoidal and ethmoidal sinuses. In the latter he felt polyp tissue and discovered that the thin cells of the ethmoid had been almost entirely broken down by the disease process. Great care was taken to carry on these manipulations gently, yet he easily reached posterior to the eyeball. After curetting anteriorly only in the true nasal space, he desisted from further operative measures. The next morning there was a cellulitis extending down onto the upper jaw, associated with the usual blackening. The patient complained of very severe pain in the region of the orbit, and the temperature was elevated. In addition to the cellulitis there was a marked exophthalmos. The ophthalmologists at the hospital were of the opinion that a clot had formed behind the eyeball and that a considerable time would be required for its absorption. After a week or ten days the pain had entirely ceased. Two or three days later the upper eyelid began to swell, and at the end of the third day fluctuation was detected. Under anæsthesia, he had found in the region of the lachrymal gland an abscess, and had evacuated considerable pus. On carrying a probe down he had felt it pass into the ethmoid bone. At the present time the extensive œdema of the upper eyelid was gone, and there was no longer any pain, but the wound had not yet healed. At no time had there been any involvement of the optic nerve, such as choked disk, and there had been no ecchymosis of the eyelid itself. Most of the pus was situated superficially, although the track extended presumably into the ethmoidal region.

Dr. J. Oscroft Tansley exhibited a patient upon whom he had operated three weeks before for a deviated septum.

Cyst of the Hard Palate and Right Nasal Fossa.

Dr. Robert C. Myles presented a patient who had had nasal stenosis on the right side for four or five years. The cyst measured about one and three-quarter inches in its horizontal and vertical diameters, and extended through the hard palate in a sort of channel. Evidently absorption of the bone had occurred in places. It was probably a dentigerous cyst, but it was different from other cysts of this kind that he had seen. Its walls were very tough, at least in the palatal region.

In answer to a question from Dr. Quinlan, Dr. Myles said that there was no specific history.

Dr. Jonathan Wright said he was reminded of an extraordinary case seen by him last summer. The patient was a man who had been treated in this city at one of the dispensaries, and had been told that he was liable to be choked to death at any time, and that if severe dyspnœa supervened he should apply to Dr. Wright. When first seen by the latter, the larynx was about four-fifths occluded by a cyst, which appeared to be about the size of a walnut. The dyspnœa was not very severe at the time. He wondered that nothing had been done to relieve the patient, but the physician who had seen the case had evidently looked upon the growth as malignant. The speaker said that he had sent the patient over to the Manhattan Eye and Ear Hospital, expecting that a hasty tracheotomy would be demanded. On his way to the hospital the patient suddenly felt something "give way in his throat," and experienced immediate relief. Examination at the hospital showed that the growth had shrunk and presented the typical appearance of an œdematous perichondritis, due to syphilis. The patient recovered rapidly and completely under the administration of the iodide. Dr. Wright said that he had never heard before of such a case.

Suppuration of the Antrum.

Dr. Jonathan Wright showed a case which had been operated upon about two years ago in England, through the alveolar fossa, for suppuration of the antrum. A dentist in London had put in an obturator, and the patient had been instructed to take it out twice a week and syringe out the antrum with peroxide of hydrogen. The apparatus inserted by the dentist was exhibited. It consisted of a hollow spiral spring, set into a vulcanite plate, and so constructed that when in the antrum it acted as a foreign body, and, as Dr. Wright said, was extremely well calculated to keep up suppuration in the antrum. When first seen by the speaker, the patient had fever and pain and a profuse purulent discharge from the nose. The opening was too minute to admit of drainage. He had accordingly done the supra-alveolar operation, and had followed his rule of making a very large opening. The inside of the antrum felt perfectly smooth to the finger at the time of the operation, and some bare bone was detected. The man did well for a week after operation, and then developed a quinsy sore throat, which had served to still further weaken him. The patient had been instructed to keep the packing in for three weeks. The discharge had ceased after two weeks.

The Treatment of Hoarseness in Singers and Public Speakers.

Dr. F. A. Bottome read a paper with this title. He said it was well understood that hoarseness is common to many pathological conditions, but it was assumed in this paper that the patient had been under the care of a qualified physician, who had already placed the upper air passages in a healthy condition. Notwithstanding such care singers do become hoarse, and in the treatment the promptness of relief is of great importance. Public singers are constantly exposed to sudden variations of temperature in going back and forth between the dressing room and the stage. In the early stage, he did not think local treatment was desirable. To relieve the congestion the patient should be given a hot mustard foot-bath and put to bed. After a dose of ten grains of calomel, aconite should be given up to the physiological effect, and a Leiter's cold coil should be applied externally. The throat may be sprayed with some soothing application, such as albolene. The patient must not utter a word, making his wants known by writing. After twenty-four hours or more of this treatment there should be a decided improvement. It was then proper to resort to the use of tonics. His personal preference was for the tincture of the chloride of iron, in doses of half a drachm in glycerine and water, administered after meals. It should be continued three times daily in increasing doses for a number of days. If the larynx is still generally congested, nitrate of silver (ten grains to the ounce) may be applied as a spray. There is frequently only a narrow line of congestion visible along the edges of the cord, and then a solution of menthol (one drachm to the ounce of albolene) should be applied to the cord with a probe. The patient is by this time usually so much better that he is anxious to try the voice. This should be done very gradually, in the middle register only, going up and down the scale. The patient should be infused with a large degree of hope, and given as much confidence as possible at the time regular singing is resumed. It is well to make a local application between the times of singing, or see to it that the body is well rubbed down with alcohol.

The sudden accumulation of mucus upon or between the vocal cords is a common cause of hoarseness or of a sudden "breaking" of the voice, even in singers apparently in excellent condition. The treatment consists of deep inhalations of menthol dissolved in albolene, using a globe inhaler, together with the use of the same solution in a hand atomizer by the patient just before singing or speaking, so as to prevent the dislodgement of the mucus from other parts and its deposition on the vocal cords at this time.

Temporary paralysis of the vocal cords occasionally takes place. He had seen two cases. One of these was a clergyman who had had a severe paroxysm of coughing during the night, lasting nearly an hour. Examination showed the cords to be in the cadaveric condition. The affection lasted for six weeks. The second case was a chorus girl in the opera. After an unusually long and severe rehearsal, while suffering from a cold, she found the voice had gone. There was no inflammation of the larynx, but adduction was impossible. Faradization and strychnia effected a cure.

The treatment of chronic conditions, or of hoarseness from a faulty use of the voice, was not considered to be within the scope of the paper, but an exception was made in the case of singer's nodules.

As the etiology of these nodules was becoming better understood, the proper line of treatment, Dr. Bottome said, was becoming clearer. These nodules originate from a faulty method of singing, particularly of tone-placing. Relief is afforded by systematic instruction in correct tone-placing.

Dr. Myles said that the paper was extremely practical, but it seemed to indicate that the author had been more successful or fortunate with chorus girls than he had been. Personally, he believed there was a large element of luck in this work, and he made this statement after having had a large experience in the local treatment of the throats of opera singers. In the acute cases the best results seemed to be obtained by an inhalation at a temperature of 140 to 160°F. of the vapor of a mixture of one teaspoonful of the compound tincture of benzoin in a pint of water. Such a soothing application seemed to him the best remedy for general use. In practice, it was rare that the voice could be rested sufficiently, except, perhaps, in the case of clergymen. If the physician insisted upon the singer stopping the use of the voice, it often meant the loss of a position, and, perhaps, even then the result might not be very satisfactory. He had noticed in highly educated opera singers, who frequently are troubled by alternating nasal stenosis, that there is a special tendency to the formation of singer's nodules. The cords are forced into peculiar positions, giving rise to the so-called "nodules." In these cases he never hesitated to apply nitric acid, which not infrequently yielded almost brilliant results in three days. When the nose had been placed in such a condition as to make this alternating stenosis of rare occurrence, the voice improved, and in the course of six or eight months, in chronic cases, the nodules would entirely disappear.

Dr. Quinlan said that in a paper read by him before this Section some time ago, he had dwelt very forcibly on "laryngeal strain."

We all knew that this condition is simply forcing the larynx to do a certain amount of overwork, and which usually resulted from a neglect to use the resonators of the upper passages, viz., nose and its accessory sinuses. As a result, there is compensatory thickening, and the slightest changes in the weather are followed by local swelling. This causes the singer to force his extrinsic muscles in order to produce the desired tones. This, in turn, increases the thickening, and, in time, results in a singer's node. An important feature in these cases is the condition of the epiglottis to the base of the tongue. It is sometimes held there by a mass of lymphoid tissue. Solis Cohen had beautifully described this as an "imprisonment." A certain pitch and volume of tone is the result of such imprisonment. In a person who is struggling against this condition of the lingual tonsil, the constant effort to move this hampered epiglottis causes undue strain, with congestion and hypertrophy of the parts. The false bands will be found swollen, and the patients talk only with effort. He had found that in many instances the applications that had been recommended did not accomplish what was desired. If one could reduce this mass and give freedom to this valve, one could take off the laryngeal strain. Rest and constitutional measures would greatly assist. He was always opposed to irritation, for it seemed to him to be one of the preliminaries of congestion. It was better to produce profuse sweating and catharsis. Applications must be made to this gland as well as to the nares, pharynx and laryngo-pharyngeal space. Physicians seemed inclined to overlook this very important feature of the condition under discussion. He recalled the case of a man who had had a large hæmatoma on the cord, which had existed for some time. He was still endeavoring to keep up his singing in opera, and at the termination of each performance was, in consequence, almost exhausted. The excision of this mass was advised, but the patient feared to submit. Nevertheless it disappeared without surgical interference by attention in keeping open the nasal chambers.

Dr. Beaman Douglas said that it had always been a matter of remark with him that there was such very slight congesting of the cord itself, and apparently no adequate cause for the hoarseness in these singers. He had, therefore, tried, in a series of cases of acute laryngitis, in both hospital and private practice, a variety of remedies. The usual ones, such as tartar emetic, aconite and Dover's powder, quinine and belladonna, had uniformly disappointed him. He had now come to believe that the most important thing was to secure an even temperature and absolute rest in bed for twenty-four hours, together

with employment of massage, three times a day. The patient should also be kept on a liquid diet. This treatment had been found more reliable than any other he had tried. He had often been struck with the fact that, while the cords did not appear reddened, they were œdematous along the free border, and that the mucous membrane covering the arytenoids was somewhat acutely inflamed. His treatment had been directed particularly to the congestion of the arytenoids. He did not hesitate to employ astringents, using cocaine previously. Enough cocaine would dribble over the arytenoids on to the cords to contract them. A four per cent solution of cocaine seemed to do them good, if applied to the arytenoid region. Subsequently, a two-grain solution of chloride of zinc, or a five-grain solution of nitrate of silver was appropriate. He was accustomed to forbid the use of the voice, substituting for it, as far as possible, the whispered voice. He had not had any uniform success with the oily sprays; on the other hand, some tarry preparations seemed to be serviceable. Where mucus collects on the cord, the vaporization of tar seemed to give relief. In singers of the opera chorus class it was always well to regulate and restrict the diet.

Dr. Bottome, in closing the discussion, said that he had limited his paper to those cases in which the nasal passages had already been placed in good condition. He had purposely omitted reference to the inhalation of steam because of the exposure to which these patients are subject, and he thought a singer who took a leading part could always rest for twenty-four hours and allow his part to be taken by an understudy. In an otitis media the drum-head would be found acutely congested, and in these cases his experience had been that the ear should be left severely alone, and that every effort should be made by catharsis, aconite and mustard foot-baths to determine the blood to other parts of the body. It seemed to him that the same was true of these cases of acute laryngitis. Patients who are to go on a draughty stage within twenty-four or forty-eight hours should not be given inhalations of steam. It was for this reason that he recommended a tonic treatment. He preferred very large doses of iron and believed experience justified their use. The chorus girls do not have understudies, but if they are good looking they can often go on the stage and make their lips move without singing—"fake it," as they call it—until the hoarseness is recovered from. Many singers would say, on coming to the physician, that they did not wish nitrate of silver used upon them—they have a prejudice against it. He did not mean to say that this was justifiable, for in some cases it was indicated; yet many of these cases, with a rather strong solution

of menthol (one drachm to the ounce, used as a spray to the larynx) experienced a great deal of relief. These patients were especially liable to be discouraged, and hence the importance of infusing into them a great deal of courage.

Foreign Resolutions of Sympathy on the Death of Dr. Joseph O'Dwyer.

A communication was read to the Section from Dr. George M. Lefferts, enclosing resolutions of sympathy from the Laryngological Society of Berlin, on the death of Dr. O'Dwyer. The communication stated, in brief, that the society desired to express to their American colleagues, through Dr. Lefferts, their profound regret at the heavy loss which their art had sustained through the untimely death of Dr. O'Dwyer. At the unanimous adoption of the resolution the members of the Berlin Society arose from their seats in silent honor of the dead.

On motion of Dr. H. B. Douglas, the secretary was instructed to acknowledge the receipt of the communication, and to convey to the Berlin Laryngological Society the thanks of the Section, and their appreciation of the expressions of sympathy regarding the death of Dr. O'Dwyer.

An International Directory of Laryngologists and Otologists.

A Directory of above title is announced for publication in June, 1898, under the auspices of *The Journal of Laryngology*. The managing sub-editor will be glad to receive the names and addresses of all physicians limiting their practice to Laryngology, Rhinology and Otology.

Address all communications to Dr. Richard Lake, care of Reiman & Co., 11 Adam street, London, W. C., England.

BOOK REVIEW.

Text-Book of Otology—By Dr. L. Jacobson. Second revised German edition. In one octavo volume of 520 pages, 330 illustrations, 19 full-page plates. George Thieme, Leipzig, publisher. American agents, Lemcke & Buechner, New York.

The plan and arrangement of this volume is very similar to that of American text-books. This second edition shows careful revision, and each subject has been brought up to date. The therapy of otology receives more consideration than in most of the Continental works. Prominent points are emphasized by heavy-faced type and sub-headings throughout the volume.

A series of twenty clean, clear lithograph plates, profusely illustrating otological instruments, their technique, the topographical anatomy of the ear, many original sections of the temporal bone, and an interesting series of pathological pictures.

Die Syphilis der Oberen Luftwege unter Besonderer Beruecksichtigung der Differentiellen Diagnose und der Lokalen Therapie. By Anton Lieven, Aix-la-Chapelle. Part I. Syphilis of the Nose. Hang's Klinische Vorträge, Vol. xx., No. 10. Published by Gustav Fisher, Jena, 1898. American agents, Lemcke & Buechner, New York.

The above contribution is No. 20, Vol. II, of Hang's Klinische Vorträge. The author, Dr. Anton Lieven, is recognized as one of the highest Continental authorities on Syphilis of the Upper Respiratory Tract. The essentials of this article are contained in a contribution by Dr. Lieven in a similar paper published in the May, 1898, issue of THE LARYNGOSCOPE.

Klinik der Krankheiten der Mundhöhle, Kiefer und Nase. Von Dr. Med. L. Brandt. No. 1. Defecte und Phosphornekrose. Hirschwald, Berlin. American agents, Lemcke & Buechner, 812 Broadway, New York.

The greater portion of this brochure is devoted to the consideration of congenital deformities of the palate and adjacent structures. A detailed description of the various operative procedures for the relief of these conditions follows. Stress is laid on the after-treatment by massage and oral training.

In another chapter the author describes deformities of the jaws, accompanied by illustrations and descriptions of appliances for correcting these conditions.

The third chapter contains an interesting sketch of nasal deformities, particularly referable to constitutional diseases. Space is also devoted to the methods of making and applying artificial noses.

In the last chapter the question of phosphorus necrosis is considered.

Sounds and Their Relations.—A Complete Manual of Universal Alphabets, illustrated by means of Visible Speech. By Alex. Melville Bell, F. E. I. S. Published under the auspices of the Volta Bureau, Washington, D. C. Quarto, cloth, \$2 00.

The Science of Speech—By Alex. Melville Bell. Published under the auspices of the Volta Bureau, Washington, D. C., 1897. Price, 50 cents.

The Faults of Speech.—By Alex. Melville Bell. (Fourth edition.) 1898. Volta Bureau, Washington, D. C. Price, 60 cents.

An interesting series by this eminent authority, particularly applicable in the advanced methods of teaching the deaf. These small volumes are of much interest to special workers who come in contact with patients of defective speech and the deaf. The principles of vowel and consonant formation are here very ably set forth.

Annual and Analytical Cyclopaedia of Practical Medicine. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors. Volume I. Philadelphia, New York, Chicago. The F. A. Davis Company, publishers, 1898.

A single glance at the array of prominent associates under the able editorial direction of Dr. Sajous, is a sufficient guarantee of the favorable reception which this new Cyclopaedia of Medicine will receive. The first volume is a beautiful creation of the printers' and binders' art, and the contents are arranged similar to the monthly journal so long and successfully conducted by the same editor.

The cyclopaedia will consist of six volumes, to be issued during a period of three years. In addition to this a monthly supplement will be published in regular journal form. In short, this will be a Cyclopaedia of Medicine kept constantly up to date.

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DEVOTED TO DISEASES OF THE

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LIST OF ILLUSTRATIONS.

	Page.
Specimens of Supratonsillar Fossæ; Staves indicate the Opening—Paterson	16
Pharynx Spread Out, showing the Fossa on each side—Paterson	18
Fossa Opened and Part of Wall held back to show Interior—The Loose Arrangement of the Adenoid Tissue is shown—Paterson	20
Fossa Opened and Disposition of Adenoid Tissue in the Interior is displayed; a black straw has been inserted into a Deep Prolongation of the Space on the Outer Aspect of the Tonsil—Paterson	22
Nasal Syringe—Scheppegrell	29
Rhinolith—Hill	38
Apparatus for Differentiating Vascular and Muscular Tinnitus Aurium—Rumbold	54
Middle Ear and Ossicle Forceps—Allport	56
A New Aseptic Ear Syringe—Allport	57
True Papilloma of the Tonsil—Angio-Fibroma of Tonsil—Yearsley	80
Hypertrophied Tonsil with Fimbriated Papilloma—Adenoid Tissue covered with Stratified Epithelium—Showing Origin of Growth from Supratonsillar Fossa—Yearsley	84
Showing Origin of Papilloma from the Follicle of the Tonsil—Yearsley ..	85
Ear Tube—Cole	162
Probe—Chisel—Kicer	173
A Substitute for a Fountain Cuspidor—Todd	175
Sample Pages of Rhino-Otological Case Record—Pyncheon	235
Pneumatic Cabinet—Ambler	241
Auxiliary Air-Tank—Pyncheon	292
Inflator-Inhaler—Pyncheon	293
Nebulizer with Nose-Piece—Extention-Tip—Pyncheon	294
Improved Tube for Drainage of the Maxillary Sinus—Mulhall	299
Detailed Construction of Tube—Mulhall	300
Hot Sterilized Compressed Air Apparatus—Enslee.*	301
Diagrams showing Details of Operation for Deviation of the Nasal Septum—Gleason	305
Diagrams showing Details of Operation for Deviation of the Nasal Septum—Watson	305
Cavernous Angioma from Nasal Septum; Low Power—Richards	347
Cavernous Angioma from Nasal Septum; High Power—Richards	348
Exostosis of External Auditory Canal—Goldstein	383
A Remarkable Case of Goitre—Miller	385
Some New Instruments for Operation about the Tonsils—Makuen	387

INDEX.

ORIGINAL ARTICLES.

A

- Abscess of Temporo-Sphenoidal Lobe—Operation—Recovery—Remarks. 287
- Abscesses in the Neck, Consequent on Diseases of the Ear. 92
- Acute Otitis Media, on the Prevention of Complications from. 116
- Adeno-Carcinoma of the Nose, Case of 40
- Adenoid Vegetations, Scar Tissue in the Pharynx, following Scarlatina and Complicating. 91
- Adenoids, Operative Treatment of Pharyngeal Adenoids 207
- Adenoids, Operation Under Chloroform. Death. 50
- Affections, Rheumatic and Gouty, of the Ear 357
- Air, Hot Sterilized Compressed, Electrical Apparatus for. 301
- Albuminuric Tonsillitis, Report of a Case of Spontaneous Hemorrhage from the Left Tonsil. 275
- Allport—Middle Ear and Ossicle Forceps 56
- Allport—New Aseptic Ear Syringe. 57
- Ambler—Pneumatic Cabinet as a Means of Inflating the Ear. 240

B

- Baker—Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles of the Larynx, With Report of a Case. 277
- Ballenger—Chronic Suppurative Otitis Media: Indications for Treatment 228
- Berens—Wool Tampons in the Control of Nasal Hemorrhage. 149
- Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles of the Larynx, Report of a Case. 277
- Bleeding Polyp of the Septum, Report of a Case. 347
- Brown—Epithelioma of the Naso-Pharynx 219

C

- Case of Adeno-Carcinoma of the Nose. 40

- Catarrhal Deafness, Modern Possibilities in Chronic. 350
- Chloroform, Adenoid Operation Followed Immediately by Death Under 50
- Chronic Catarrhal Deafness, Modern Possibilities in. 350
- Chronic Suppurative Otitis Media. Church—On the Prevention of Pyæmic Complications from Acute Otitis Media. 116
- Cole—A Discovery in the Physiology of the Ear. 162
- Control of Nasal Hemorrhage, Wool Tampons in the. 149
- Correspondence. 176-303
- Crawford—Tonsillotomy, When and How to Make It. 150
- Crico-Arytenoid Muscles of the Larynx, Bilateral Paralysis of the Posterior 277
- Cuspidor, Substitute for a Fountain. 175

D

- Deaf Mutes, Hearing Capacity of. ... 224
- Death Following Immediately an Operation for Naso-Pharyngeal Adenoids Under Chloroform. 50
- Dench—Thrombosis of the Lateral Sinus. 104
- Diagnosis in Sinus Disease, Transillumination in. 47
- Diagnosis of Vascular and Muscular Tinintus Aurium. 52
- Differential Diagnosis of Vascular and Muscular Tinintus Aurium. ... 52
- Diffuse External Otitis, Subacute. ... 364
- Discovery in the Physiology of the Ear 162
- Diseases of the Ear, Abscesses in the Neck, Consequent on. 92
- Diseases of the Middle Ear. 170
- Disease, Transillumination in the Diagnosis of Sinus. 47
- Diseases of the Upper Respiratory Tract, Non-operative Treatment of Diseases, Vertigo as Related to Nasal 340
- Drainage of the Maxillary Sinus, Improved Tube for 299

E

- Ear, a Discovery in the Physiology of the 162

Ear, Abscesses on the Neck, Consequent on, Diseases of.....	92
Ear, Diseases of the Middle.....	170
Ear, Gouty and Rheumatic Affections of the	357
Ear, Pneumatic Cabinets as a Means of Inflating the.....	240
Ear, Probe-Chisel for the.....	173
EDITORIAL:	
A Reminder	121
Bibliography and Abstracts.....	61
Cancer Treated by Injections of Alcohol	58
Legislative Regulation of the Sale of Cocaine	373
Marquette as a Hay Fever Resort	178
The Clinical Value of Antitoxin..	247
Enslee—Hot Sterilized Compressed Air, An Electrical Apparatus for Heating and Sterilizing Compressed Air.....	301
Epithelioma of the Naso-Pharynx..	219
Ewing—Recurring Parotitis in a Healthy Child.....	221
External Otitis, Subacute, Diffuse..	364
F	
Fallacies in the Physiology and Functions of the Labyrinth.....	155
Felt—Scar Tissue in the Pharynx Following Scarlatina and Complicating Adenoid Vegetations.....	91
Ferreri—Abscesses in the Neck, Consequent on Diseases of the Ear	92
Fibroma of the Naso-Pharynx, with Report of Case.....	86
Foreign Body in the Nostril for Five Years	90
Fossa as the Starting Point of Infection, Supratonsillar.....	15
Functions of the Labyrinth, Fallacies in the Physiology and.....	155
G	
Goldstein—Fallacies in the Physiology and Functions of the Labyrinth	155
Goldstein—Modern Therapy of Suppurative Otitis Media	369
Gouty and Rheumatic Affections of the Ear	357
H	
Hay Asthma, Turbinectomy, Complete Relief	274
Hearing Capacity of Deaf Mutes..	224
Hemorrhage from the Left Tonsil, Albuminuric Tonsillitis.....	275
Hemorrhage, Wool Tampons in Nasal	149

Hengst—Sarcoma of the Naso-Pharynx, with Report of a Case....	43
Hill—Unusual Sized Rhinolith Removed with the Lithotrite with Prompt Cessation of Prolonged Disturbances	37
Hinkel—Death Following Immediately an Operation for Naso-Pharyngeal Adenoids under Chloroform, with Remarks on Chloroform Anæsthesia in the Operation.....	50
Hot Sterilized Compressed Air, An Electrical Apparatus for Heating and Sterilizing Compressed Air..	301
Hydrorrhœa, Nasal	271

I

Improved Tube for Drainage of the Maxillary Sinus	299
Infection, Supratonsillar Fossa as the Starting Point of.....	15
Inflation, Technique of Tympanic..	290
Ingersoll—Sinusitis Nasi.....	212
Injury to Inferior and Middle Turbinals in Operation for Deviated Septum	147
Innervation of the Muscles of the Soft Palate	33
Intubation of the Larynx for Membranous Stenosis.....	281

K

Keiper—Albuminuric Tonsillitis, Report of a Case of Spontaneous Hemorrhage from the Left Tonsil	275
Kicer—A Probe-Chisel for the Ear.	173
Knight—Transillumination in the Diagnosis of Sinus Disease.....	47

L

Labyrinth, Fallacies in the Physiology and Functions of the.....	155
Lake—Notes on a Case of Membranous Rhinitis	143
Lapsley—Diseases of the Middle Ear	170
Larynx, Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles of the, Case Report.....	277
Larynx for Membranous Stenosis, Intubation of the.....	280
Lateral Sinus, Thrombosis of, Dependent upon Suppurative Otitis Media	104
Lederman—Urticaria, Involving the Soft Palate, Causing Alarming Symptoms	153
Lithotrite, with Prompt Cessation of Prolonged Disturbances, Unusual Sized Rhinolith Removed with the	37

- Lockard—Case of Hay Asthma, Turbinectomy, Followed by Immediate and Complete Relief..... 274

M

- Mastoiditis..... 164
 Mastoiditis of Dental Origin in a Diabetic..... 109
 Membranous Rhinitis, Case of..... 143
 Meyer Monument, Unveiling of the Middle Ear and Ossicle Forceps... 335
 Middle Ear, Diseases of..... 170
 Modern Possibilities in Chronic Catarrhal Deafness..... 350
 Modern Therapy of Suppurative Otitis Media..... 369
 Mulhall—Improved Tube for Drainage of the Maxillary Sinus..... 299
 Muscles of the Larynx, Bilateral Paralysis of the, Crico-Arytenoid. 277
 Muscles of the Soft Palate, Innervation of the..... 33
 Muscular Tinnitus Aurium..... 52

N

- Nasal Diseases, Vertigo as Related to..... 340
 Nasal Hemorrhage, Wool Tampons in the Control of..... 149
 Nasal Hydrorrhea..... 271
 Nasal Sinusitis..... 212
 Naso-Pharynx, Epithelioma of..... 219
 Naso-Pharynx, Fibroma of the, with Report of Case..... 86
 Naso-Pharynx, Sarcoma of the, with Report of Case..... 43
 New Aseptic Ear Syringe..... 57
 New York Academy of Medicine..... 122-375
 Non-Operative Treatment of Diseases of the Upper Respiratory Tract..... 26
 Nose, Case of Adeno-Carcinoma of the..... 40
 Nostril, Foreign Body in the, for Five Years..... 90
 Notes on a Case of Membranous Rhinitis..... 143

O

- On the Prevention of Pyæmic Complications from Acute Otitis Media..... 116
 Operation for Deviated Septum, Injury to Inferior and Middle Turbinals in..... 147
 Operation for Naso-Pharyngeal Adenoids under Chloroform..... 50
 Operation of Abscess of Temporo-Sphenoidal Lobe..... 287
 Operative Treatment of Pharyngeal Adenoids..... 207

- Oppenheimer—Gouty and Rheumatic Affections of the Ear..... 357
 Origin, Mastoiditis of Dental, in a Diabetic..... 109
 Ossicle Forceps, Middle Ear and.. 56
 Otitis Media, Chronic Suppurative, Indications for Treatment..... 228
 Otitis Media, Modern Therapy of, Suppurative..... 369
 Otitis Media, on the Prevention of Complications from Acute..... 116
 Otitis, Subacute, Diffuse, External.. 364

P

- Palate, Causing Alarming Symptoms, Urticaria, Involving the Soft Palate, Innervation of the Muscles of the Soft..... 33
 Papilloma of the Tonsil..... 79
 Parotitis in a Healthy Child, Recurring..... 221
 Paterson—Supratonsillar Fossa as the Starting Point of Infection.. 15
 Pharynx Following Scarlatina and Complicating Adenoid Vegetations, Scar Tissue in the..... 91
 Physiology and Functions of the Labyrinth, Fallacies in the..... 155
 Physiology of the Ear, A Discovery in the..... 162
 Pneumatic Cabinet as a Means of Inflating the Ear, with Remarks as to the Advantages and Disadvantages of the Various Methods Employed..... 240
 Point of Infection, Supratonsillar Fossa as the Starting..... 15
 Polyp of the Septum, Bleeding.... 347
 Pratt—Foreign Body in the Nostril for Five Years..... 90
 Probe-Chisel for the Ear..... 173
 Pyæmic Complications from Acute Otitis Media, on the Prevention of Pynchon — Rhino-Otological Case Record.... 234
 Pynchon—Technique of Tympanic Inflation..... 290

R

- Record, Rhino-Otological Case.... 234
 Recurring Parotitis in a Healthy Child..... 221
 Report of Case of Sarcoma of the Naso-Pharynx.... 43
 Respiratory Tract, Non-Operative Treatment of Diseases of the Upper..... 26
 Rheumatic Affections of the Ear, Gouty and... 357
 Rhinitis, Case of Membranous.... 143

Rhinolith Removed with the Lithotrite, with Prompt Cessation of Prolonged Disturbances.....	37
Rhino-Otological, Case Record.....	234
Richards—Bleeding Polyp of the Septum, Telangiectoma.....	347
Rumbold, T. F.—Differential Diagnosis of Vascular and Muscular Tinnitus Aurium	52
Rumbold, F. M.—Mastoiditis of Dental Origin, Occurring in a Diabetic. With an Unusual Formation of the Mastoid Cells. Operation. Recovery	109
S	
Sarcoma of the Naso-Pharynx, With Report of a Case.....	43
Scar Tissue in the Pharynx Following Scarlatina and Complicating Adenoid Vegetations	91
Scheppegrell — The Non-Operative Treatment of Diseases of the Upper Respiratory Tract.....	26
Semon—Speech Made at the Unveiling of the Wilhelm Meyer Monument, at Copenhagen.	335
Septum, Bleeding Polyp of the....	347
Septum, Injury to Inferior and Middle Turbinals in Operation for Deviated.....	147
Sinus Disease, Transillumination in the Diagnosis of	47
Sinus, Improved Tube for Drainage of the Maxillary.....	299
Sinusitis Nasi.....	212
Sisson—Mastoiditis.....	164
Snow — Modern Possibilities in Chronic Catarrhal Deafness.....	350
Soft Palate, Innervation of the Muscles of the.....	33
Somers, Subacute Diffuse External Otitis.....	364
Speech Made at the Unveiling of the Wilhelm Meyer Monument at Copenhagen.....	335
Stein—Vertigo; Especially as Related to Nasal Diseases.....	340
Stenosis, Intubation of the Larynx for Membranous	280
Sterilized Compressed Air, Hot. Electrical Apparatus for.....	301
Stucky—Injury to Inferior and Middle Turbinals in Operation for Deviated Septum.....	147
Subacute Diffuse External Otitis....	147
Substitute for a Fountain Cuspidor.	175
Suppurative Otitis Media, Chronic..	228
Suppurative Otitis Media, Modern Therapy of.....	369

Suppurative Otitis Media, Thrombosis of the Lateral Sinus, Dependent upon	104
Supratonsillar Fossa as the Starting Point of Infection.....	15
Syringe, New Aseptic Ear.....	57

T

Technique of Tympanic Inflation....	290
Telangiectoma, Bleeding Polyp of the Septum.....	347
Temporo-Sphenoidal Lobe, Abscess of. Operation, Recovery, Remarks	287
Therapy of Suppurative Otitis Media, Modern.....	369
Thomson—Nasal Hydrorrhœa.....	271
Thorner—Case of Adeno-Carcinoma of the Nose.....	40
Thrombosis of the Lateral Sinus, Dependent upon Suppurative Cases of Otitis Media, with Report of Cases.....	104
Tilley—Abscess of Temporo-Sphenoidal Lobe, Operation, Recovery, Remarks	287
Tinnitus Aurium, Vascular and Muscular.....	52
Todd—A Substitute for a Fountain Cuspidor	175
Tonsillitis, Albuminuric. Hemorrhage from the Left Tonsil.....	275
Tonsillotomy, When and How to Make It.....	150
Tonsil, Papilloma of the.....	79
Transillumination in the Diagnosis of Sinus Disease.....	47
Treatment of Diseases of the Upper Respiratory Tract, Non-Operative.....	26
Treatment of Pharyngeal Adenoids, Operative.....	207
Tube for Drainage of the Maxillary Sinus, Improved.....	299
Turbinals in Operation for Deviated Septum, Injury to Inferior and Middle.....	147
Turbinectomy, Hay Asthma, Complete Relief.....	274
Turner—Innervation of the Muscles of the Soft Palate.....	33
Tympanic Inflation, Technique of..	290

U

Unusual Sized Rhinolith Removed with the Lithotrite, with Prompt Cessation of Prolonged Disturbances.....	37
Urbantschitsch—Hearing Capacity of Deaf Mutes.....	224
Urticaria, Involving the Soft Palate, Causing Alarming Symptoms....	153

V

- Vascular and Muscular Tinnitus Aurium. Differential Diagnosis of.. 52
Vertigo, Especially as Related to Nasal Diseases..... 340

W

- Wolff—Intubation of the Larynx for Membranous Stenosis..... 280
Woodson—Fibroma of the Naso-Pharynx..... 86
Wool Tampons in the Control of Nasal Hemorrhage..... 149
Wurdmann—The Operative Treatment of Pharyngeal Adenoids... 207

Y

- Yearsley—Papilloma of the Tonsil.. 79

BOOK REVIEWS.

- Hay Fever and its Successful Treatment—Hollopeter 141
Rhino-Otological Case Record—Pynchon 141
Ear Records—Lester and Gomez... 141
Hygiene des Ohres—Körner..... 141
Die Häufigsten Ohrenkrankheiten—Steuer 141
Ueber die Funktionelle Prüfung des Menschlichen Gehörorgans—Bezold 141
Das Hörvermögen der Taubstummen—Bezold ... 142
Pocket Notes of the New British Pharmacopeia, 1898..... 142
Atlas of Diseases of the Larynx—Grünwald..... 142
Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear—Scheppegrell 206
Die Gewerbe und Berufskrankheiten des Ohres—Kahn..... 270
Die Krankheiten des Mundes—Mikulicz and Kümmel..... 334
Hygiene of the Voice—Rumbold... 334

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

- A Case of Blue Nasal Secretion—Molinie 308
A Case of Cacosmia—Lacoarret.. 63
A Case of Caseous Coryza—Lacoarret 307
A Case of Reflex Aphonia, of Nasal Origin, in Hysteria—Crouzillac 128
A Case of Rhinolith Developing from a Cherry Stone—Raoult... 308

- A Form of External Rhinitis, due to the Klebs-Loeffler Bacillus Appearing in Children Convalescent from Scarlet Fever—Todd 310
An Etiologic Study of Atrophic Disease of the Upper Air Passages, Based Upon an Examination of Two Hundred Cases—Goodale 250
Antiseptic Treatment of Nasal Catarrh—Cottingham 307
A Simple Method of Resecting the Nasal Septum without Perforation—Escat 309
Case of Recurrent Headache, Each Attack Being Relieved by the Discharge Through the Right Nostril of a Fluid from the Cranial Cavity—Scheppegrell... 252
Caseous Rhinitis Due to a Shoe Button in the Right Nasal Fossa—Molinie 62
Chancre of the Nasal Septum—Evans 62
Chronic Nasal Catarrh—Ohls.... 181
Diseases of the Eye Caused by Diseases of the Nose—Haight. 152
Diseases of the Upper Air Passages—Armstrong 182
Epileptoid Seizures, Apparently Due to Nasal Obstruction—Root 127
Fractures of the Nasal Bones—Cobb 62

HAY FEVER.

- Hay Fever—Weaver..... 181
Hay Fever, "June or Rose Cold"—Anders 126
Importance of Nasal Conditions in Conjunctivitis—Keely 63
Leeches in Coryza—D'Aquitol... 128
Micro-Organisms Found in Ozena—De Simone 181
Modern Pathology and Therapy of Acute Rhinitis—Solenberger. 126
Nasal Catarrh—Pynchon 307
Nasal Catarrh, Acute and Chronic; Laryngitis; Eustachian Tubal Catarrh, and Inhalants—Bishop 251
Nasal Obstruction—Mendel 309
Nasal Polypi: Their Diagnosis and Radical Treatment—MacKenzie 62
Non-Specific Perforation of the Nasal Septum—S'raw 251
Observations of the Histology and Etiology of Rhino-Scleroma—Secchi 250
On Nasal Reflexes—Moll..... 127

Purulent Discharge from the Nose; Clinical Significance and Differential Diagnosis—Shambaugh	273
Rare Fracture of the Nose; Necrosis and Elimination of the Inferior Turbinal—Garrel.....	310
Restoration of a Deflected Nasal Septum—Douglas	380
Rhinolith or Nasal Calculus—Poole	308
Rhinoliths, Four New Cases Due to Cherry Stones—Garrel.....	309
Rhino - Pharyngo - Laryngo-Scleroma—Schotz	64
Screw-Worms in the Nasal Cavity—Little	309
Serious Consequences Following Intranasal Operations—Levy....	39
Some Remarks on Nasal Surgery—McKinney	309
The Abuse of the Nasal Douche—Lichtwitz	127
The Effect of Irritation of the Nasal Mucosa Upon the Movements of the Heart and Pulse—Guder	250
The Electrolytic Treatment of Ozena—Rethi	251
The Importance of Examining the Nose in Troublesome Coughs—Palmer	126
The Removal of a Bean from the Nose—Oehme	251
To Stop Nose-Bleed—Smith.....	380
Tumors of the Nose and of the Sinuses—Tissier	251

II. MOUTH AND NASO-PHARYNX.

ADENOIDS.

A Cause for Adenoids—O'Toole. 67	67
Adenoids as an Etiological Factor in Orthopedic Deformities—Coolidge	220
Adenoids in the First Year of Childhood—Cuvillier	49
Adenoid Vegetations and Laryngeal Stridor—Smith.....	255
Adenoid Vegetations and Laryngeal Stridor—Lack	257
Adenoid Vegetations of the Vault of the Pharynx, with Special Reference to Anæsthesia in Operating—Lenzmann	199
Mouth-Breathing in Children, Particularly as a Result of Adenoids—Hobbs	315
The "Versatility of Adenoid Vegetations—Francis	66
Troubles Caused by Adenoid Vegetations in the Adolescent and Adult—Bonait	200

PHARYNX.

A Case of Urticaria of the Pharynx, Producing Grave Edema of the Glottis—Taylor	254
Bucco-Lingual Leucoplasia, Symptomatology, Pathology and Treatment—De Molenes.....	253
Carcinoma of the Pharynx, with Extensive and Erratic Cornification—Hektoen	253
Complete Congenital Occlusion of the Posterior Nares—Clark....	128
Cysts and Pseudo Cysts of the Nasal Fosse—Brindell.....	314
Diagnosis and Cure of a Lingual Tumor by Intranuscular Injections of Calomel—Christini....	316
Diagnostic Characteristics of Headaches According to Their Origin, with Special Reference to Headaches Dependent Upon Affections of the Senses—Gradle..	317
Four Cases of Extragenital Chancere—Bloom	129
Membranous Congenital Occlusion of the Posterior Nares—Lacoarret	252
Mycosis of the Pharynx—Prevost	64
Mycosis Pharyngis Leptothricia—Toeplitz	315
Naso-Pharyngeal Catarrh and Its Treatment by the General Practitioner—Hall	252
Observations on Some Pathologic Conditions of the Naso-Pharynx—Munson	128
Pathologic Conditions of the Pharynx and Contiguous Structures, During Early Childhood. Prime Factors in the Etiology of Malformed Maxillæ, Irregular Teeth, Etc.—Mills.....	182
Parotitis from Obstruction of Stensen's Duct—Brown	77
Pathology of the Vomiting of Tuberculous Patients; Vomiting Due to Pharyngeal Hyperæsthesia—Berthier	253
Studies of Some Facial Bones—Cryer	182
Stuttering and its Practical Treatment—Derevoqe	252
Suppurative Meningitis Following Difficult Eruption of a Wisdom Tooth—Heydenreich	255
The Mouth In Glass-Blowers—Liaras	315
The Spitting of Blood—Kyle.....	254
The Value of the Buccal Eruption of Measles (Koplik) for Early Diagnosis—Libman	316

- Treatment of Chronic Naso-Pharyngitis—Sommers 310
- Tuberculosis of the Parotid Gland—Parent 381
- Ulceration of the Pharynx in Hereditary Syphilis—Hamilton. 65
- Voluminous Polypus of the Size of a Nut in the Nasal Fossæ—Deschamps 314
- SOFT PALATE.**
- Extirpation of Soft Palate and Tonsil for Carcinoma—Lee.... 315
- TONGUE.**
- A Case of Chronic Abscess of the Tongue—Richardson 316
- Angioneurotic Edema of the Tongue—Hallock 254
- Elephantiasis of the Tongue—Marchal 316
- What Operation Can Do for Cancer of the Tongue—Butlin..... 184
- TONSIL.**
- Acute Follicular Tonsillitis—Ingals 332
- Angina Pectoris Following Inflammation of the Tonsils—Zilgien 128
- Anterior Pillars of the Fauces; Their Abnormality, Etiology and Treatment—Carpenter 183
- A Syphilitic Gumma Originating and Isolated in the Tonsil—Audrey and Iverseng..... 66
- Certain Conditions of the Tonsils which Limit the Usefulness of the Tonsillotomy—Bliss 65
- Chancere of the Tonsil—Bradley.. 315
- Peritonsillitis: Its Etiology and Treatment—Baldwin 184
- Phlegmonous Inflammation of the Lingual Tonsil—Grouzillac.... 314
- Pneumococci on the Healthy Tonsil—Bezancon and Gridon..... 129
- Practical vs. Theoretical Tonsilotomy—Coulter 183
- The Internal Secretion of the Tonsils—Massini 380
- The Tonsil as a Point of Entrance for Severe General Infectious Diseases—Jessen 253
- The Treatment of Chronic Hyper-trophic Tonsillitis in the Light of Modern Theories of Infection Through the Tonsil..... 252
- The Treatment of Chronic Inflammation of the Tonsils—Ellegood 183
- Tonsil and Adenoid Operations Under Anæsthesia by Nitrous Oxide, and Nitrous Oxide and Oxygen: A Preliminary Report—Casselberry 67
- Treatment of Acute Tonsillitis.. 183
- Ulcerative Membranous Angina, Due to a Fusiform Bacillus and Spirilli—Lemoine 314
- When and How to Remove Tonsils and Adenoids Accompanying Acute Otitis Media—Hessler 314
- UVULA.**
- Operation for Primary Epithelioma of Uvula—Downie..... 182
- Urticaria, Involving the Uvula and Nearly Causing Asphyxia—Hinsdale 254
- III. ACCESSORY SINUSES.**
- Surgical Treatment of the Sinuses Accessory to the Nose—Hammond 129
- The Treatment of Sinusitis (with Exception of Maxillary)—Moure 381
- ETHMOID.**
- Chronic Suppurative Ethmoiditis—Somers 185
- FRONTAL.**
- Empyema of the Frontal Sinus—Barth 129
- The Etiology and Treatment of Suppurative Disease of the Frontal Sinuses—W. Milligan.. 67
- The Treatment of Empyema of the Frontal Sinus—Bryan..... 318
- MAXILLARY.**
- A Case of Periostitis of the Floor of the Orbit, Due to Right Acute Maxillary Sinusitis—Deschamps 317
- A Case of Persistent Purulent Discharge in Empyema of the Maxillary Sinus—Lacoarret ... 68
- Acute Inflammation of the Maxillary Sinus—Warren 68
- A Simple Method of Plugging, and Simultaneously Securing an Artificial Opening in the Maxillary Antrum—Herzfeld 317
- A Study of the Anatomy of the Maxillary Sinus, with Special Reference to Points of Practical Interest—Shambaugh 185
- Empyema of the Antrum of Highmore—Berger 258
- Empyema of the Maxillary Sinus Operated Through the Canine Fossa—Castex 258
- Mucous Polypi of the Left Maxillary Sinus—Gavello..... 259
- Right Maxillary Empyema Operated Through the Canine Fossa—Castex 129
- The Treatment of Empyema of the Maxillary Antrum—Meyjes. 318

IV. LARYNX, TRACHEA AND ŒSOPHAGUS.

GENERAL.

- A New Method of Tubing the Larynx—Jarnette 189
- Benign Incurable Paralysis of the Recurrent Laryngeal Nerve, Following Measles—Lermoyez... 319
- Bilateral Paralysis of the Posterior Crico-Arytenoid Muscle of the Larynx—Baker..... 260
- Case of Spasmodic Dyspnoea—Barnett 71
- Chorditis Vocalis, Inferior—Freer 192
- Chronic Laryngitis, Cases and Results—Woodward 69
- Chronic Stenosis of the Larynx, with Illustrative Cases—Jones. 319
- Cutting of the Thoracic Portion of the Trachea, Following Injury of the Neck by a Sharp Instrument—Vanverts 260
- Experimental Work on the Penetrability of Vaporized Medicaments Into the Air Passages—Thomas 204
- Edema Laryngis of the Climacteric—Uchermann 382
- Extraction Through the Mouth of a Plate Lodged in the Œsophagus—White 137
- Hysterical Aphonia—Brown 69
- Ichthyol in Acute Laryngitis—Cieglewicz 186
- Indications of Intubation—McClanahan 329
- Intubation for Foreign Body—Sevispe and Bonnus..... 190
- Laryngeal Necrosis in Enteric Fever—Duffy 192
- Laryngotomy for Subglottic Stenosis—Castex 259
- Maladies of the Voice—Castex... 259
- Paralysis of the Left Recurrent Laryngeal Nerve in Mitral Stenosis—Osler 319
- Some Defects of Speech; Their Cause and Treatment, with Exhibition of Cases—Makuen.... 146
- Spasm of the Glottis and Sudden Death in Whooping Cough—Chaumier 382
- Spasmodic Closure of the Glottis in an Adult—Stillson..... 191
- Statistics on Hereditary Disturbances of the Speech Function—Gutzmann 138
- The Development and Care of the Singing Voice—McKinney 191
- The Differential Diagnosis of Ulcerative Diseases of the Pharynx and Larynx—Gibbs..... 186

- The Pathology of the Voice Center—Onodi 279
- The Spasmodic Night Cough, with Vomiting and Coryza, in Children—Gastow 204
- Treatment of Different Forms of Aphonia, Due to Laryngeal Lesions—Collins 318
- Two Cases of Ludwig's Angina or Sublingual Phlegmon—Casselberry 192
- Urticaria Involving the Larynx and Causing Asphyxia—Woodbury 260-383

ASTHMA.

- Asthma: Its Cause and Treatment—Parker 202
- Asthma Relieved by Compression of the Vagus—De Miranda.... 261
- The Pathology of Asthma—Kantack 330
- A Case of Bronchial Catarrhal Asthma—May 203
- Asthma—Mott 261

FOREIGN BODIES.

- A Foreign Body in the Air Passages—Pegessoc 190
- A Teasel Burr in the Larynx—Smith 131
- Foreign Body in the Air Passages—Peyrissac 131
- Foreign Bodies in the Bronchi—London 321
- Foreign Body in the Larynx—Peyser 190
- Notes of Two Cases of Foreign Bodies in the Air Passages—Swift 69
- Plugging of Trachea by Caseous Gland—Longbotham 130
- Three Cases of Foreign Body in the Œsophagus—Heaton 322
- Two Cases of Foreign Bodies in the Air Passages—Wigg..... 131

MALIGNANT GROWTHS.

- A Case of Epithelioma of the Larynx, Laryngectomy and Partial Pharyngectomy, Death on the Eleventh Day from Exhaustion—Shurly 319
- A Case of Hyaline Myxoma of the Larynx—Galdier 259
- Early Diagnosis of a Case of Cancer of the Larynx—Clark and Harrington 130
- Extirpation of the Larynx and Œsophagus—Garre 132
- Malignant Growth of the Larynx—Myles 70
- Multiple Papilloma of Larynx—Hickey 70

- Radical Operation for Malignant Neoplasms of the Larynx—Lemon 259
- (1) Sarcoma of the Larynx; (2) Sarcoma of the Naso-Pharynx in an Infant—Halstead..... 188
- The Surgical Treatment of Malignant Disease of the Larynx—Delavan 223
- SYPHILIS.**
- Painful Dysphagia Evidence of Syphilis—Garel 320
- Precocious Oedema in Secondary Syphilis of the Larynx—Lacroix 190
- Some Remarks Upon Syphilitic Manifestations in the Larynx—Vaughan 320
- Syphilitic Laryngitis, with Cases—Straight 190
- TUBERCULOSIS.**
- A Case of Primary Tuberculosis of the Larynx—Trifiletti..... 70
- A Case of Primary Tuberculosis of the Larynx—Bullen..... 71
- Curetage in Laryngeal Tuberculosis—Gleitsmann 71
- Laryngeal Stenosis, Due to Advanced Tubercular Disease Relieved by Intubation—Delavan. 191
- Phthisis, or Pulmonary Tuberculosis—Campbell 333
- Treatment of Laryngeal Phthisis—Murray 185
- Tuberculosis of the Larynx in Children—Plicque 189
- Tuberculosis of the Throat; Its Treatment—Thomas 320
- V. EAR.**
- GENERAL.**
- A Reply to the Question: What Is the General Practitioner to Do with Cases of Ear-Ache?—Sprague —
- Auricular Disturbances, Due to Late Hereditary Syphilis—Monari 327
- Auricular Manifestations of Grippe—Courtade 198
- Care of the Ears in Early Life—Bryant 261
- Contraction of the Jaws in Suppurative Lesions of the Ear—Pietro 198
- Convulsions Due to Aural Disease—Verdos 198
- Discussion on Tinnitus in Its Relation to Nasal and Aural Affections—Randall 55
- Earache: Its Importance—Hinkle 193
- Ear Manifestations in General Disease—Phillips 261
- Eczema of the External Auditory Canal 332
- Epidemic Cerebro-Spinal Meningitis—Councilman 199
- Mono-Auricular Diplacusis—Etievant 265
- Natural Gas and Eustachian Inflammation—Kyle 72
- Painful Paralysis of the Facial Nerve with Herpes Zoster of the Ear—Jacquet..... 325
- Pneumonia Observed in Twelve Cases, at Various Stages of the Operation, for Section of the Incudo-Stapedial Articulation and Mobilization of the Stapes—Gleason 161
- Some Things the General Practitioner Should and Should Not Do in the Treatment of the Ear—Audenried 384
- Spontaneous Discharge of a Cerebro-Spinal Liquid from the External Auditory Canal—Probably a Congenital Fistula—Escat 263
- Sudden Deafness with Report of Case—Herron 384
- The Differential Diagnosis of Reflex and Otophlogistic Otalgia—Weyman 324
- The Hygiene of the Ears—Dowling 262
- The Hygiene of the Ear: In Health and in Disease—Ewing. 322
- The Influence of Diseases of the Nares and Pharynx on Aural Affections—Somers 133
- The Politzer Air-Bag—Baker.... 293
- The Prognosis and Treatment of Peripheral Facial Paralysis—Allaire 266
- The Relation Existing Between Bright's Disease and Certain Ear Symptoms—Dowling..... 197
- What Can Be Accomplished by Treatment of the Eustachian Tube—Marshall 72
- EXTERNAL EAR.**
- Eczema of the External Auditory Canal—May 193
- Exostosis of External Auditory Canal—Goldstein 383
- Fracture of the Cartilages of the External Ear—Somers..... 72
- FOREIGN BODIES.**
- A Contribution to the Study of Foreign Bodies in the Auricular Canal—Carette 322

- Auricular Vertigo Due to Foreign Body Thirty Months in Auditory Canal—Cerf 198
- Death Following Removal of a Foreign Body from the Ear—Bruhl 322
- The Removal of Wax from the Ear—Ricci 263
- MIDDLE EAR.**
- Acute Inflammation of the Middle Ear—Ellett 324
- Acute Myringitis—Seiss 73
- Another Contribution to Surgery of the Middle Ear—Faraci.... 264
- Cholesteatoma; Cerebral Abscess Death—Thomas and Lantail... 384
- Cholesteatoma of the Middle Ear, Pathology and Treatment—Bouyer 264
- Does Tympanotomy and Removal of the Incus Arrest Progressive Hardness of Hearing?—Burnett 264
- Earache and Discharging Ears in Children—Morrow 193
- Facial Paralysis in Acute Otitis Media—Damieno 325
- Intratympanic Surgery; Especially in Chronic Purulent Otitis Media—Burnet 75
- Ossiculotomy in Chronic Suppuration of the Middle Ear—Stucky. 194
- Paracentesis of the Drum in Middle-Ear Disease—Roosa 133
- Prevention of Scarlatinal Otitis—Canby 193
- Purulent Otitis Media—Ludewig. 169
- Sclerosis of the Tympanum—Castex 325
- Simple Device in the Treatment of Acute Otitis Media—Bishop. 194
- Some Further Results in Treating the Ears by Massage Methods—Lautenbach 199
- Stacke's Operative Exposure of the Middle Ear and Its Recesses for the Cure of Chronic Otorrhœa—Pischl 75
- The Microbe of Influenza and Acute Grippal Otitis Media—Loewenberg 325
- The Operative Treatment of Chronic Suppuration of the Middle Ear—Gleason..... 73
- The Surgical Treatment of Acute Inflammations of the Middle Ear—Dench 74
- The Treatment of Acute Suppurative Otitis Media by Means of Free Irrigation Through the Eustachian Canal—Meniere.... 263
- Three Cases of Suppurative Otitis Media—Woods 133
- Traumatic Rupture of the Tympanic Membrane—Braislin 172
- Treatment of Suppurative Otitis Media—Gradle 74
- MASTOID.**
- A Case of Abscess of the Cerebellum, Following Disease of the Ear—Kirkland..... 233
- A Case of Cerebellar Abscess—Woodward 327
- Cerebral Abscess and Phlebitis of the Sinus of Otic Origin—Cade. 265
- Cerebral Abscess Consecutive to Purulent Otitis Media—Bergamini 154
- Extradural Cerebral Abscess of Aural Origin with Thromboses of the Lateral Sinus, in which the Sinus was not Opened; Operation; Recovery—Bronner.... 135
- Intracranial Complications from Suppurative Otitis Media—Poli 263
- On Intracranial Complications of Suppurative Otitis Media—Gradenigo 326
- On the Prevention of Pyemic Complications from Acute Otitis Media—Church 193
- Ptois as a Symptom in Abscess of the Temporal Lobe—Steinbrugge 198
- Pyæmic Sinus Thrombosis, Etc.—Whitney 194
- A Case of Otitis Media Purulenta Acuta (double), with Mastoiditis on Left Side, Following Removal of Adenoids—Collins... 115
- A Case of Scarlet Fever Complicated with Acute Suppurative Otitis Media and Acute Hemorrhagic Septicæmia Treated by Antistreptococci Serum; Recovery—Low 134
- A Case of Acute Mastoiditis with Lobar Pneumonia, Followed by Lateral Sinus Thrombosis and Pyemia; Recovery Without Operation—Parsons 326
- A Case of Spontaneous Mastoid Pneumatocèle—Josserand and Carle 197
- Acute and Chronic Caries and Necrosis of the Mastoid Process—Knapp 75
- A Neglected Case of Extensive Double Suppurative Mastoiditis, with Complications—Long. 298
- Diseases of the Mastoid; Their Cause and Treatment—Milbury 197
- Mastoid Empyema, Etc.—Smith.. 163

CEREBRAL COMPLICATIONS.

- Radical Operation of the Mastoid—Barkan 135
 Report of a Case of Double Mastoid Abscess with Openings Into the Cranial Cavities—Crouch... 265
 Two Cases of Mastoiditis with Abscess of the Neck—Bryan.. 135

INTERNAL EAR.

- Labyrinthine Phenomena Dependent Upon Middle-Ear Diseases, and Their Relief by Local Treatment—Deuch 200
 Motor Excitation in Deaf Mutes on Whom Acoustic Exercises Are Practiced—Gelle..... 227
 The Pathology of the Cortical Auditory Center—Alt 327
 Training the Deaf—Scheppegrell. 200

VI. (a) DIPHTHERIA.

- A Case of Faucial, Nasal and Aural Diphtheria—Burnett.... 76
 Alkalized Serum as a Culture Medium for Bacterial Diagnosis of Diphtheria—Cobbett 76
 Antidiphtheritic Serum and Diphtheria Albuminurica—Sprouck. 137
 A Report of Thirty-eight Consecutive Intubations for Diphtheritic Croup, with Thirty-six Recoveries: All Treated with Antitoxin—Waxham 286
 Diphtheria—Walsh 328
 Diphtheria Affecting the Skin—Sharp 328
 Diphtheria and Antitoxin—Moriarta 329
 Diphtheria and Membranous Croup, Their Differential Diagnosis and Treatment—Davidson 329
 Diphtheria Antitoxin: A Report of the Clinical Society of London—(Committee Clinic Society of London) 329
 Diphtheria Antitoxin as an Immunizing Agent—Donald..... 202
 Heart Complications in Diphtheria—Hibbard 77
 Intubation and Antitoxin in Diphtheritic Croup—Strong..... 286
 Milk and Diphtheria—Taylor .. 137
 Nasal Diphtheria Complicated by Broncho-Pneumonia—Hamill .. 308
 Observations in Diphtheria—Jero-witz 328
 On a Special Form of Diphtheroid Angina—Vincent 267
 The Clinical Relations of the Loeffler Bacillus—Wachenheim. 329

- The Diagnosis and Treatment of Diphtheria—Henderson 266
 The Early Diagnosis of Diphtheria—Jaques 328
 The Etiologic Significance of the Loeffler Bacillus—Czaplewski... 136
 The Influence of Antitoxin in the Treatment of Laryngeal Diphtheria With and Without Intubation—Rosenthal 266
 The Possibilities and Limitations of Serum Therapy—Sanders... 330
 The Possibilities of Antitoxin in Diphtheria—Suttie 136
 The Preparation of Loeffler's Solution for the Local Treatment of Diphtheria..... 201
 The Result of the Serum Therapy in Diphtheria—Kronlein 202
 The Value of the Use of Diphtheritic Antitoxin in the Treatment of Pseudo-Membranous Croup—Hall 267
 The Vitality of the Diphtheria Bacillus—Macgregor 76

VI. (b) THYROID.

- A Remarkable Case of Goitre—Miller 386
 An Extraordinary Acute Case of Graves' Disease—Sutcliffe..... 77
 Exophthalmic Goitre in Four Children in the Same Family—Holmes 321
 Nasal Symptoms in Myxœdema—Cleveland 76
 The Thyroid Gland in Goitre—Morello 321

VII. THERAPY AND INSTRUMENTS.

THERAPY.

- A New and Successful Treatment of Certain Forms of Headache—Vansant 268
 Antinosine in the Treatment of Diseases of the Eye and Ear—Coleman 205
 Argonin versus Boric Acid in Acute Suppuration of the Middle Ear—Gray and Thompson. 332
 Benzosol in Diseases of the Respiratory Apparatus—Peyser. 268
 Cimicifuga in Tinnitus Aurium—Robin and Mendel..... 332
 Creosote in the Treatment of Ozœna—Ferrerì 78
 Eucaine Hydrochlorate "B" as a Local Anesthetic in the Nose—Somers 331
 Formaldehyde in Hay Fever—Alexander 140

For Inhalation in Catarrh of the Upper Air-Passages—Kafemann	78
Formic Aldehyde in Tubercular Laryngitis—Cohen	269
For the Glossitis of Alcoholics...	78
Further Observations on Cimicifuga as a Remedy for Tinnitus Aurium—Wendel	387
Gelsemium—Preparations and Uses—Nottage	330
General and Local Anæsthesia in Laryngology and Rhinology—Gibbs	140
Hæmostatic Action of Calcium Salts—Silvestri	258
Hydrastis Canadensis as a Remedy in Cough—Sanger	78
Ichthyol Inhalations in Acute Laryngitis—Cieglewicz	268
Ichthyol in the Treatment of Affections of the Respiratory Tract—Le Tanneur	267
Indications and Contraindications for the Use of the Schleich Local Anæsthesia—Krecke and Reichold	203
Koch's Tuberculin—Koch	262
Prevention of Tuberculosis—Smith	330
Prof. Behring's Patent on Diphtheria Antitoxin	386
Some Points in the Treatment of So-called Nasal Catarrh—Cook	78
Spontaneous Cure of Tuberculosis and the Imitation of Its Methods—Whittaker	333
Sudden Development of Acute Pulmonary Tuberculosis During the Treatment of a Case of Tuberculous Peripheral Neuritis by the Antiphthisic Serum—Holloway	265
Sulpho-Ricinata of Phenol in Tuberculosis of the Larynx—Herzog	387

The Action of the X-Ray on Cultures of the Tubercle Bacillus—Pott	333
The Advantages of Chromic Acid for Intranasal Cauterization—Lavrand	331
The Expenditure of Electric Energy—Cleaves	265
The Influence of Sunlight on Tuberculous Sputum in Denver: A Study as to the Cause of the Great Degree of Immunity Against Tuberculosis Enjoyed by Those Living at High Altitudes—Mitchell	330
The Serum Cure of Tuberculosis—Duchateau	333
The Treatment of Influenza with Anti-Streptococcus Serum—Currien and Pellon	203
The Treatment of Dysphagia in Laryngeal Tuberculosis—Yonge	387
The Use of Aqueous Extract of Supra-Renal Glands, Locally in the Upper Air-Passages—Swain	268
The Use of Creasoted Oil for the Expulsion of Tracheal False Membrane After Tracheotomy and for Intra-Nasal Injections in Various Affections—Ewart	333
To Abort Acute Coryza—Courtade	77
Treatment of Hay Fever	269

INSTRUMENTS.

A Laryngendoscopic Mirror—Mermod	174
Intubation with Improved Instruments—Thorner	138
Oesophagoscope—Kelling	138
Some New Throat Instruments, Etc.—Makuen	267-386

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No. 1.

ORIGINAL COMMUNICATIONS.

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SUPRATONSILLAR FOSSA AS THE STARTING POINT OF INFECTION.

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The frequency with which the pharynx is the starting point of infection, both local and general, is responsible in a large measure for the great interest taken in the inflammatory affections of that region, and the question of their origin has risen in importance since bacteriology has shed increased light upon it. So many of the septic inflammations begin as tonsillar affections, or show themselves at an early stage in the tonsils, that attention has been turned in that direction and much discussion has waged around the mode of entrance. Attempts have been made to assign the causation of various inflammatory diseases of the pharynx to particular microorganisms, but apart from some of the specific infections where the conclusions cannot be gainsaid, much obscurity still exists and in not a few instances we systematically meet with more than one variety. However, various micro-organisms have been found producing different stages of this same process and Lemon has urged with much force and has brought forward evidence to show that the old view has still much probability, viz., that many cases which are bacteriologically distinct, are identical from a pathological point of view.

One of the most important practical questions arising out of this discussion is the seat of entrance of infection, and in this connection the tonsils have received special attention. These structures have long been recognized as almost the first to be implicated and though various explanations have been advanced, none are free from objection. Stöhr in his well-known researches on the lymphoid tissue of the tonsil, has shown that a large number of leucocytes are constantly finding their way out of the lymphoid tissue and being shed into the fissures and crypts of the tonsil, the emigration taking place through gaps between the cells. It has been held that those gaps give passage inward to pathogenic microorganisms and set up infection in the gland. This suggestion has much probability in it,



FIG. 1. Specimens of Supratonsillar Fossæ; staves indicate the opening.

though there is a difficulty in accepting it as a complete explanation. Any invasion of micrococci would be met by the outgoing stream of leucocytes and should have to assume that the vitality of the latter must be lowered or the efflux checked before the infecting agents could gain entrance to the substance of the tonsil. That such a condition may be brought about, I hope to show, by drawing attention to the importance of the supratonsillar fossa as a point from which microorganisms invade the tonsils and the surrounding tissues, and by pointing out how frequently implicative of that space precedes the inflammatory trouble in the gland itself.

I have already described* this space and the plica triangularis—

*Journal of Laryngology, Rhinology and Otology, April, 1898.

which bears an intimate relation to it—and pointed out its variations and it will not be necessary to give more than a few details here. The fossa was first described by this as an anatomical space which was occasionally to be found just above the tonsil between the pillars of the fauces at the apex of the interstitium. In the development of the parts about the pharynx we have the arcus palatoglossus, formed from the second visceral arch. The palate, growing as a fold from the upper jaw, crosses this arch as well as the corresponding second cleft and divides it into an upper and lower part. The remains of the cleft above the palate forms the fossa of Rosenmüller; below the palate lymphoid tissue develops, forming the tonsil and the remainder of the cleft at the upper part constituting the supratonsillar fossa. This space is therefore the remains of the second visceral cleft and is similar in origin to the Rosenmüller's fossa; whilst the extent of both is influenced by and depends upon the growth of lymphoid tissue. In the case of the latter (also called the pharyngeal recess) the pharyngeal tonsil may encroach upon it and almost obliterate it. The point that I am anxious should be borne in mind is that the fossa we are dealing with, possesses a vesical character and like similar structures is liable to disease.

The plica triangularis, which bears an important relation to the fossa, is a fold of mucous membrane, prolonged from the anterior pillar of the fauces. At its apex above it is lost in the edge of the velum palate, the base disappearing in the root of the tongue. The structure is frequently folded over the tonsil, wrapping it, as it were, in the anterior aspect, while the posterior margin is not infrequently, to some extent, if not altogether, adherent to the gland. On the other hand, it may remain a free edge, and may be pulled forward to permit a view of the parts subjacent. In its upper part it covers the opening of the fossa, concealing it from view, and it may be that the entrance can only be made out when the edge of the plica is displaced by a probe. The importance of this relation lies in the fact that various changes sometimes take place in the plica which affect the outlet of the fossa and convert the space into a closed-in sac with a narrow opening.

As the name implies, the supratonsillar fossa is in intimate relation to the tonsil. In most cases the posterior boundary is formed by the upper part of the gland, which is prolonged upward in the form of a spur. In front we have the anterior pillar of the fauces and the mucous membrane of the soft palate, and the upper part of the cavity strides for a variable distance into the soft palate. The part of the tonsil uniting the fossa shows an arrangement of structure which differs

somewhat from the rest of the gland, a point of some importance. The lymphoid tissue is disposed in a very loose, open network, which contrasts with the compact structure of the lower part of the gland, where it feels firm, is closely packed together, and presents on its surface any of the openings of small size. Moreover, in the upper region within the fossa the tissue is spread out in processes, resembling fingers and toes along the walls of the space, a condition which may be likened to miniature columnæ cameæ and muscoli papillares. The crypts and lacunæ are large and open freely, communicating with each other. They become narrower as they pass into the substances of the the tonsil, whilst some run downwards, to open by

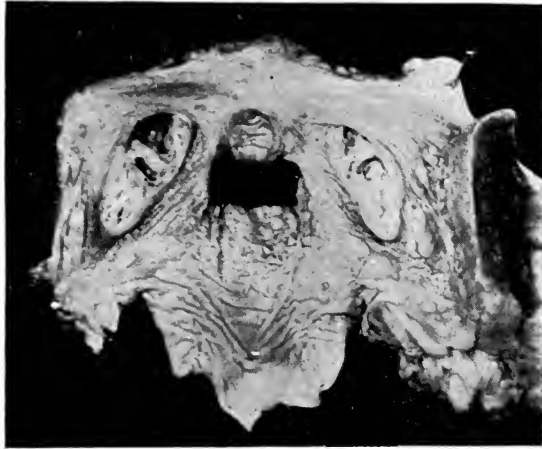


FIG. 2. Pharynx spread out, showing the fossa on each side.

smaller orifices on the surface of the gland. This arrangement furnishes an explanation why the products from the upper follicles and crypts tend to find an outlet in the fossa rather than on the surface of the tonsil. As a result we have the frequent presence of serious plugs in the fossa. The cavity being soft-walled and bounded on all sides by the muscular tissue of the palate, is ever undergoing change of shape, and the secretion in the lower crypts is forced upwards into the more open structure above. There it becomes aggregated into caseous matter and compressed into little rounded masses, which readily undergo decomposition and become evil smelling. These plugs may be extended naturally, or retained for a time, when they

may set up irritation, which ceases when they are removed artificially or otherwise, or they may go on to the formation of a calculus. In this way tonsilloliths originate, and in the majority of cases are located in the fossa and not in an enlarged crypt, as generally supposed.

Following out the relations of the fossa, it may be observed to pass down behind the anterior palatal arch and outwards as far as the lower jaw; on the external or deep aspect of the tonsil it may dip down and come into contact with the deeper structures, such as the superior construction of the pharynx and in several specimens which I have examined, the smooth wall of the fossa composed of a thin layer of mucous membrane was reflected on the deep muscular and areolar tissue. This relation is of considerable interest in view of the inflammatory affections which start in and are largely confined to this peritonsillar tissue. Its extent into the soft palate may be very considerable, reaching almost to its posterior or naso-pharyngeal aspect, and proving a cavity with offshoots jutting in between the muscular layers. It may run upward and inward toward the uvula, and on the anterior aspect come near the surface, being separated from the mouth cavity merely by a layer of mucous membrane.

In a healthy condition of the pharynx and where the opening of the supra-tonsillar fossa is ample, no abnormal products are met with. The secretion from the crypts is squeezed into the space from which it finds a ready exit into the pharyngeal cavity; there is no retention and consequently an absence of tonsillar irritation. Where the fossa is less favorably disposed, secretion is retained and tonsil plugs are formed. These originate from the desquamation which takes place in the crypts and are composed of cast-off epithelium leucocytes, mucus, with little masses of phosphate of lime and colonies of bacteria. Staphylococci and streptococci, and bacilli of various kinds have been identified, having found their way in from the mouth, probably by means of small particles of food or from carious teeth. The plugs vary in size from a hemp seed to a mass as large as a bean; they have a foul odor and when of any size give rise to sense of discomfort, the patient experiencing relief when they are turned out. A decomposing plug may often be observed to set up irritation around the fossa, which subsides on the offending mass being got rid of.

Among the local inflammations which are met with as a result of infection, by far the most frequent are those affecting the tonsils. In lacunar tonsillitis we have an acute infectuous disorder, the mode of origin of which is a matter of controversy. If the tonsil be inspected

in an early stage of this affection it may be observed that the upper part is first involved, the process spreading to the lower crypts—at least the plugs are usually noticed there at a later period. In several patients who have had repeated attacks of lacunar tonsillitis, I have had opportunities of watching the process from the very commencement. It begins as an uneasy feeling about the upper region of the tonsil; then there is some tenderness as well as fulness over the palatal arch and following this one or more of the upper lacunæ show white spots. The fossa is usually filled with caseous material which has lain there for some time, and after cleaning it out and swabbing it with carbolic acid, the attack may abort and the parts speedily return to normal. When the process pursues the usual course the gland becomes considerably enlarged and the crypts throughout filled

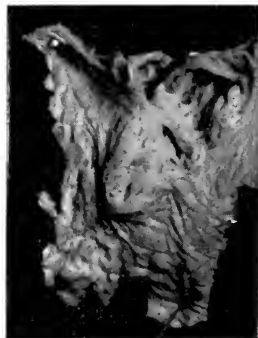


FIG. 3. Fossa opened and part of wall held back to show interior. The loose arrangement of the adenoid tissue is shown.

with white plugs. After resolution, the fossa may be found to contain fœtid caseous matter and the interior readily bleeds on being brushed out.

In cases where an attack follows intra-nasal cauterization, I made careful observations on two patients in whom lacunar tonsillitis had repeatedly occurred and was set up by each nasal operation. In both I observed it start in the upper part of the tonsil, as if it spread from the fossa, which in both instances lodged cheesy masses. In one case, before further cauterization was done, the preliminary step was taken of scraping out the space and brushing it with trichloroacetic acid; while in the other the apex of the tonsil was punched out to give ample drainage. The result was satisfactory and in both patients I was able to cauterize the turbinates on several subsequent occasions without inducing an attack of lacunar tonsillitis. This

experience, I think, goes to show that the suggestion of intra-nasal infection does not explain their occurrence and that Fränkel's theory of a conveyance of material from the nasal lymph channels into the tonsil would not hold good for all. In the fossa we meet with streptococci and staphylococci as well as other organisms in great abundance; they are present in the plugs which lie in the crypts within the space, and it is surely conceivable that in those who have already suffered from attacks of lacunar tonsillitis any lowering of the vitality of the parts, whether produced by local operative measures, chill or other means, may readily precipitate a further attack. The walls of the fossa are implicated each time the tonsil takes on this inflammation, while the plica becomes more thickened and contracted, leaving the outlet still smaller and affording less room for the escape of the contained products. Each attack leaves its effect behind in an increased hypertrophy of the fibrous tissue, which leads to atrophy of the adenoid structure, and we have subsequently a condition in which there is a comparatively roomy fossa with a narrow outlet in relation to a tonsil possessing but little glandular tissue, a condition in which a natural cure has resulted and attacks of tonsillitis belong to the past.

In peritonsillitis we have an acute inflammation of the loose areolar or connective tissue immediately surrounding the tonsil which rapidly becomes phlegmatious and usually ends in the formation of an abscess. In the majority of cases the soft parts in front of the tonsil and soft palate—that is, around the supra-tonsillar fossa—are involved, and I think there can be no doubt that the disease is set up by infection through that space. In many instances an attack is preceded by lacunar inflammation, and not infrequently the two proceed side by side. "The primary seat of the phlegmon is usually in the cellular tissue immediately above the outer border of the tonsil, in which case the tumefaction extends not only beneath the tonsil but into the tissues of the soft palate" (Bosworth). We have to deal with an infection of the enveloping connective tissue, and it is important here to bear in mind the relation of the space to that tissue and to the soft palate. In several places the lining membrane of the fossa lies directly upon those structures and when stripped off may be seen to be extremely thin. Prolongations of the fossa dip down on the outer or deep aspect of the tonsil, as is represented in Fig. 4, and indicated by the black straw, coming into contact with and lying on the superior constrictor of the pharynx and stylo-glossus muscle. And it is obvious in a fossa with foetid contents that it is not difficult for infective material to pass from it into the areolar tissue around.

In a large proportion of cases the deeper layers of the palate are early affected, and this is explained by the anatomical disposition of the parts. The fossa is prolonged upwards into the soft palate and almost as far back as the mucous membrane on the posterior or nasopharyngeal surface and when inflammatory action starts at one point it readily spreads along the fossa wall and involves the muscular structure of the palate. As already stated, peritonsillitis is frequently started by an attack of lacunar tonsillitis, and other forms of "sore throat," due to scarlet fever, diphtheria, etc., are no less potent causes of it. In all these we have a change brought about in the contents of the fossa and the size of the outlet. The latter is neces-



FIG. 4. Fossa opened and disposition of adenoid tissue in the interior is displayed; a black straw has been inserted into a deep prolongation of the space on the outer aspect of the tonsil.

sarily reduced in calibre from the tumefaction of the plica and the neighboring parts, and the consequent retention of the massed inflammatory products in the fossa tends to favor an infection of the deep tissues. There is no need to advance the suggestion, as has been done repeatedly, that adhesions are set up which retain decomposing matter in the crypts. A large proportion of the tonsil plugs naturally find their way into the fossa, and when their free escape from that space is restricted, there is at once formed a potent source of infection and it will require comparatively small causes to start an attack of acute inflammation.

The cellular tissue in contact with any part of the fossa is liable to

infection, and inflammation may therefore be set up at various points. The chief seat is around the main part of the fossa. On the anterior aspect of the soft palate, about the upper and outer region of the tonsil and where suppuration occurs, it points there in ninety-eight per cent of the cases. Where the deep layers of areolar tissue are affected, the superior constrictor muscle of the pharynx is involved; the stylo-glossus is also implicated, as evidenced by the marked pain on attempting to depress the patient's tongue, as well as the internal pterygoid which prevents the mouth being opened to any extent. In fact, one may have as a consequence of inspection starting in the deepest aspect of the fossa, inflammation of the deep muscles of the neck as well as the areolar tissue end; from this then is produced the marked stiffness of the neck and the characteristic attitude the patient assumes. The tonsil itself is lifted out of its bed and the pus when penned finds its way out through one of the tonsillar crypts. In a very small proportion of cases peri-tonsillitic abscess opens posteriorly into the naso-pharynx, an event which finds an explanation in the disposition of the fossa in this region in some instances and the occurrence of phlegmonous inflammation largely occupying the upper part of the soft palate.

A comparison of the pharyngeal and lingual tonsils with the palatal will emphasize this point. Acute lacunar tonsillitis may be observed in both the former; is some as part of an inflammation involving the whole lymphoid tissue of the throat, in others as a distinct attack. But in neither tonsil do we find the recurrent condition which is so marked a feature in the palatal. I have indeed observed lacunar inflammation of the pharyngeal tonsil on more than one occasion in the same individual, but each time it was associated with a similar affection of the palatal gland. Peritonsillitis affects the pharyngeal and lingual tonsils, though the extreme rarity with which it is met is not due to any difference in structure, for in all three tonsils there is a similar junction of lymphoid surrounded by cellular tissue. Rather must we look for it in the absence of a space like the supra-tonsillar fossa which retains infective material and acts as a persistent source of recurrent attacks of peritonsillitis until drainage is established.

In septic pharyngitis, as hospital sore throat, we have another affection which frequently starts from the fossa. In an early stage patches may be observed on the tonsil and the space filled with caseous plugs. Cleaning out this infective material affords much relief and often leads to a cessation of the attack. It is possible that the graver condition, known as Senator's phlegmonous inflam-

mation, may start in a similar manner and rapidly extend to the deep tissues of the neck. Where the fossa reaches to a considerable depth and the microorganisms possess very virulent powers, the process may proceed to the loose areolar tissue outside the constrictors of the pharynx and to the tissues along the carotid sheath. It seems to me that the deep relation of the fossa throws considerable light upon the causation of these serious affections and ought not to be lost sight of in the consideration of their mode of origin.

A lesser form of infection, which undoubtedly spreads from this space, is pharyngomycosis. The white spots found by the development of the *leptothrix buccalis* represents an affection which is extremely difficult to eradicate. Measures, such as scraping and honing, are of comparatively little value; recurrence readily takes place and the mycosis breaks out in fresh places. Though the affection is of little importance from one point of view, inasmuch as it causes but trifling inconvenience, its treatment would be much more successful if the plan of clearing out the fossa supratonsillaris at the same time were adopted. I have demonstrated frequently the presence of the *leptothrix* in the contents of the fossa, associated with chalky or gritty deposit, as in other more visible situations, and it seemed to me pretty clear that until that source was removed, success in dealing with it in the pharynx would not be very great.

The entrance of tubercle through the pharynx has long been recognized as a channel by which the lymphatic glands of the neck may be infected. The mucous membrane of the mouth and pharynx is so rarely the seat of tuberculous disease that we may put it aside almost without further consideration as a source of what is a common affection. Much attention has been given to the tonsil as a portal, and several observers have demonstrated, mainly by inoculation experiments, that the frequency of this mode of conveyance is apparently much greater than clinical experience would admit. Strasmann examined carefully the tonsils in twenty-one cases of tuberculosis, in fifteen of which the lungs were involved, and out of the latter number thirteen showed tuberculous deposits in the tonsils. Moritz Schmidt has pointed out the fallacy of observations based upon the inoculation of gland tissue, obtained post-mortem on the two-fold ground of the frequent presence of tubercle bacilli on the surface of the tonsil, without possessing pathological significance, and of the probability of tuberculous foci being developed during the last days of life, when the vital powers are at a low ebb—two reasons which go far to discount the conclusions which are drawn from the experiments. On the other hand, it seems to me whilst clinical

observation does not confirm this great frequency that the presence of tubercle in the tonsil is not rarely overlooked even when its size should render it visible to the naked eye. According to my observations a favorite starting point is in or around the supra-tonsillar fossa and when that space is covered by a well-marked plica the difficulty of recognizing a tuberculous nodule may be great. Even when special measures are taken to obtain a good view of the parts, the disease may be missed through lying too deep. An example of this I saw in a man who died of pulmonary tuberculosis. He had shown sometime before death, enlarged cervical glands on the left side; nothing abnormal could be made out in the tonsil even when the plica was pulled aside. After death when the parts were removed and the left plica cut through, a tuberculous nodule about the size of a large pea was discovered growing from the tonsil in the floor of the fossa. It showed well developed giant-cell systems which extended deeply into the substance of the tonsil. Its situation precluded its being seen during life, nor was it associated with any enlargement of the tonsil; that it was the result of auto-inoculation from the pulmonary disease is very probable. The disposition of the plica and the direction backward of the opening of the fossa, rendering easy the passage into it of material coughed up from the lungs, and it is undoubtedly to this cause that tuberculosis of the tonsils so frequently follows the pulmonary form of the disease. Tuberculous sputum on its way into the mouth is arrested by the plica and enabled to enter the fossa.

Extension of tubercle bacilli into the cervical glands rapidly follows infection of the tonsil and glandular enlargement results. That this takes place frequently through the fossa I think there can be no doubt, and that it is the most common cause of enlarged glands in the neck is, I think, also true. I have noticed repeatedly that scraping out the fossa and giving it good drainage is followed by rapid subsidence of these glands. Removal of the tonsil does not always suffice unless the operation has laid open the outlet of the fossa. Too frequently the guillotine fails to touch the upper part of the tonsil and the source of the trouble is missed. The excised gland shows nothing abnormal and it is only unless the deeper parts around the fossa are pulled out and removed that we can hope treatment will be followed by success.

THE NON-OPERATIVE TREATMENT OF DISEASES OF THE UPPER RESPIRATORY PASSAGES.*

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS, LA.

My object in selecting this title for my communication is not only because the non-operative methods are applicable in by far the larger number of cases that require treatment, but also to emphasize to the younger men who are following our specialty the greater importance of conservative treatment over radical measures.

It is not my object in this article to discredit or disparage the importance of surgical methods in diseases of the nose and throat when these are really demanded, for no one realizes more fully the excellent results which may thus be obtained. Nevertheless, I must maintain that the necessity for radical measures is present in but a small minority of cases, and that this minority is decreasing as we realize more fully the limits of conservative surgery.

So identified is the practice of the ear, nose and throat with surgical procedures in the minds of the laity that it is an everyday experience that, after an examination has been made, the patient will inquire: "What operation is necessary?" Nor is this opinion limited to the laity, for to a large number of practitioners the ear, nose and throat practice is associated with surgical work.

In reviewing the situation, it cannot be said that our specialty is not largely responsible for this prevailing opinion. A survey of the published literature of rhino-laryngology shows a large percentage of surgical measures advocated, with comparatively few authors who refer to more conservative methods of treatment. This does not, of course, prove conclusively that other methods are not extensively used, but it certainly encourages the belief that surgical methods prevail in our specialty.

It must be admitted, moreover, that surgical excesses are committed by physicians, who, having taken a short course in special work, imagine themselves prepared to cope with the most delicate and complicated conditions which may arise in the nose, throat and ear. For this state of affairs, the many polyclinics now established in all parts of the country are largely responsible. After a six or eight weeks' course, in which the aspirant for special work has hardly been able

*Read at the meeting of the Western Ophthalmologic and Otologic Laryngologic Association, Chicago, April 7th, 1898.

to see the long process of the malleus, or to distinguish the middle turbinal, and has but accidentally seen the choanæ on one or two occasions, the certificate of attendance is given, and the physician believes himself ready to treat all the diseases of the nose, throat and ear which may present. He has witnessed a large number of tonsillectomies, adenotomies, uvulotomies and nasal cauterizations, many of which have been reserved for these lectures, and he returns home provided with the proper instruments of destruction, and from the time of his arrival every patient is viewed with the possibility of utilizing the investment.

While some may think this picture overdrawn, the more experienced know its reality. But a few months ago, a patient suffering from chronic ear affection applied at my office, and stated that the local specialist had cauterized his nostril once weekly for the last three months.

The subject of the non-operative treatment of diseases of the upper respiratory passages is so extensive that it can be but briefly referred to in the time limited to this communication. My object is more to emphasize the principle than to enter into any special details. Non-operative measures should always be given the preference, and surgical methods resorted to only when absolutely indicated, or where more conservative measures have failed.

In the examination of the nasal passages we so frequently find some deformity of the septum that the normal practically forms the exception. It is, therefore, palpably absurd to try to give to each patient a normal septum, and the question arises: Under what circumstances should other than non-operative measures be used? The rule given by some authors that, where respiration on one side is interfered with, this should be a sufficient indication for operation on the septum, is not justified. In the majority of persons, with the nose and throat in apparently healthy condition, the respiration is frequently unequal in the two nostrils, and in all persons such changes sometimes occur. Unless the obstruction is sufficiently great to reduce the breathing on the affected side more than fifty per cent, an operation is rarely demanded, unless required by the condition of the opposite nostril. The human system easily adapts itself to many circumstances, which vary considerably from the normal standard. Even a spur should not be interfered with unless it impinges into the opposite tissues, offers marked obstruction, or gives rise to reflex disturbances.

Acute coryza would appear to be the least adapted to surgical interference, and yet it is not difficult to find medical literature in which

this is recommended. One author advises the mineral acids, as chromic acids, and another, the electro-cautery. The patients who most frequently apply for the relief of this condition are not those who have an occasional coryza, but those who are subject to them. If each attack should, therefore, be treated with this heroic method, the whole nasal mucosa would soon be destroyed.

Many measures have been advocated for the relief of coryza, the great number indicating the unreliability of these methods in general. One which I have found most useful and successful in the larger number of cases, if applied within twenty-four hours, is the spraying of the nose and throat with a two per cent solution of guaiacol and albolene, and the administration of ten grains of quinine, in two doses, at intervals of ten hours.

I cannot leave the subject of coryza without warning against prescribing cocaine in any form for the relief of this condition. Not only is there danger from the idiosyncrasy of the patient, which is not infrequently met with, but also the possibility of forming the cocaine habit. This danger is by no means remote, and in an article on "The Abuses and Dangers of Cocaine," which I read recently before the Orleans Parish Medical Society, I was able to collate many cases in which this habit had been contracted from the injudicious prescription of the physician in cases of coryza, hay fever and asthma. The placing of this alkaloid in the hands of the patient is fraught with danger and is never justifiable.

Hypertrophic rhinitis and the so-called rhinitis intumescent are two conditions in which the greatest surgical abuses in our practice have taken place. In many cases, the patient's nostrils have been cauterized again and again, the operator not realizing that a remedy which is so transient in its effects, and one in which the constant repetition is not without serious menace to the integrity of an organ which has so important a function, should be abandoned, and more attention paid to the prevention of the nasal congestion than to its destructive removal. Attention has been repeatedly called to the abuse of the cautery in these conditions, and while not applied as extensively as formerly, it is, undoubtedly, still used to excess. When there is distinct hyperplasia, the cautery is admissible in cases in which massage and other conservative methods have not given good results, but in cases of intumescence it is rarely ever needed.

A congestion of the nostril may be the sign of a disturbed condition of other parts of the body; it may be due to lack of exercise, abuse of alcoholics, cardiac and renal affections; in fact, to many conditions which would promptly cause relapse, unless their influence had first

been eliminated. I have, therefore, made it a practice to apply the electro-cautery but rarely in hypertrophic rhinitis, and never in the intumescent form, and the cases which do not come under this rule are so few that they may really be called exceptions.

In atrophic rhinitis we have a condition in which nature has already caused so much destruction that the rhinologists, *nolens volens*, has been limited to therapeutic measures. One or two authors have advocated the electro-cautery, but this procedure has, fortunately, been but little followed. Cupric electrolysis has also been recently advocated, with apparently fair results, but this is not strictly a surgical method; properly speaking, not more so than a hypodermic injection. The medicaments are injected, as it were, into the tissues through the influence of the electric current, there being no destruction of the tissues.

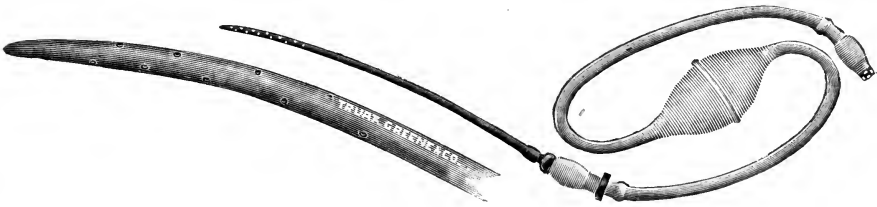


Fig. 1.—Schepppegrell's Nasal Syringe.

The first and most important measure in ozena is the thorough cleansing of the nasal cavities. A recent author, of large experience, advocated the use of as small quantity of solutions as possible for cleansing purposes in these cases, but I believe we would do well to err in the opposite direction. A normal saline or other cleansing non-irritant solution should be used in large quantities, until the nose is thoroughly cleaned. The danger of the douche where there is an obstruction to the flow does not arise in these cases, and with proper precaution nothing but good results should be obtained. The most efficacious syringe (Fig. 1) which I have used for this purpose is a perforated rubber catheter, attached to an ordinary Davidson syringe, by means of which the nostrils may be thoroughly freed of all secretion. I find this much more effective than the syringes which are applied to the nostrils only, or the cups, by means of which the crusts may be drawn into the throat.

The methods which have been recommended in this obstinate disease are the various topical applications, sprays, massage, electrolysis and serum therapy, the advocates of the two latter methods also claiming excellent results. These, however, have not yet been tried in a sufficiently large number of cases to enable us to form a fair judgment of their merits. I have used ozone in a number of cases (*Journal of Laryng., Rhin. and Otol.*, July, 1897) with good results, and I have also found massage a useful method of relief.

The treatment of the accessory sinuses resolves itself almost entirely into surgical methods, on account of the difficulty of access to these regions except by surgical intervention. Even here, however, conservatism is not out of place, and in view of the slow and sometimes unsatisfactory results obtained by opening these cavities nature should be allowed a chance and mild measures instituted. It has been shown by Dr. Avellis (*Archiv. f. Laryng. und Rhin.*, Heft 2, Bd. 4) that acute sinusites naturally tend to cure, and this should not be forgotten when these cases present.

Too much enthusiasm should, also, not be practiced in exploratory punctures of the antrum. A German author (G. Kreb, *Archiv. f. Laryng.*, etc., No. 483) recently called attention to the fact that where successive punctures of the antrum are made for diagnostic purposes, and on the third or fourth time pus is found which was not obtained at first, this might not be due to the fact that the former punctures had failed to find the pus, but that it did not exist, and that it developed as a result of irritation and surgical procedures.

In naso-pharyngeal catarrh, the condition which presents itself so frequently to our attention, surgical methods have been advocated not so much directly as indirectly, the cauterization, etc., having been applied to the nostril. As this subject has already been discussed, it need not be referred to further here. I would state, however, that the prevailing opinion that this affection is due only to nasal disease does not hold in actual practice. Cases are occasionally met with in which the nostrils are practically in a normal condition, and in which there are no adenoids or secreting cysts, in which there is considerable naso-pharyngeal secretion. While admitting that the nostrils, in the majority of cases, are at fault, it should not be forgotten that there are certain constitutional conditions, such as lithæmia, scrofulosis, etc., which may here exhibit a local expression of a general dyscrasia.

In regard to this, I would call attention to a detail in the treatment of these cases which I have not seen mentioned in the literature of this subject. This refers to the effort made by the patient to free the secretion from the naso-pharynx, the *nasal screatus*, by means of

which the secretion is drawn into the mouth and expectorated. This constant effort increases the irritability of the oro and naso-pharynx, and not only tends to aggravate the existing condition, but also to endanger the integrity of the delicate mechanism of the middle ear, where this has not already been effected by the catarrhal disease.

The first object should be to place a proper douche in the hands of the patient, by means of which the naso-pharynx may be mechanically cleansed of all adherent secretion. For this purpose the syringe, which I have already shown, is useful, the perforated rubber point being pushed sufficiently back to flush the naso-pharynx as well as the nostrils. The patient is advised to use this at first two or even three times daily, and in the meanwhile to avoid every effort to clear the throat by means of hawking, explaining that the sensation of a secretion in the throat may be due not only to its actual existence, but also to the increased sensitiveness of the throat, which would cause even the normal secretion to feel as a foreign body.

In regard to hypertrophy of the faucial and pharyngeal tonsils, I have seen this exist to a considerable extent without giving rise to inconvenience, and, as the tendency in these cases is to diminish with advancing age, the *laissez faire* plan is a good one, unless the indications positively point to surgical interference. It should be remembered that operation on the tonsils is not undertaken without a certain element of danger, and the question should always be well weighed before operative measures are advised. The argument that these tonsils are of no service, and that their extirpation can cause no harm, is one that we have no right to assume, and its practice is not without its attending danger.

As regards the larynx, the majority of measures here advocated have been non-operative, so that I need not detain you by going into details over this part of my subject. As in the naso-pharynx, operations are frequently undertaken in the nose to remedy the pathologic condition in the larynx. No one appreciates more fully the value of the nose in respiration, and its important duty in moistening, warming and cleansing the air which we inhale, but I must insist that we should not conclude that every defect in the throat is due to some abnormality of this organ, and still less that the condition must necessarily be improved by operative measures in the nasal passages.

If we have a congestion in the nasal mucosa which impedes the respiration, and we at once apply the cautery to reduce this, we also diminish the number of glandular elements which furnish the moisture which the air requires for respiration. Where the cautery has been extensively applied to the nasal mucosa—and I have seen cases

in which little of the normal could be seen—the air is not sufficiently moistened, and the absorption of the necessary moisture from the pharynx may create an irritation more serious than the condition for which the patient first applied. As already stated, every condition, even the most remote that could affect the diseased region, should be investigated and every means exhausted before destructive measures are undertaken.

In a recent case, in which a patient suffering from a spasmodic laryngeal cough, for which he had been treated by extensive cauterizations and local applications, a careful investigation proved that the patient was in the habit of smoking from fifteen to twenty cigarettes daily; the discontinuance of this habit at once corrected the irritation. This case is not an isolated one, as I have records of many similar cases.

In conclusion, I would again call your attention to the importance of non-operative measures in the treatment of diseases of the upper respiratory passages. Every case should be fully examined, and the least irregularity of the septum or local congestion should not be held responsible, to the exclusion of a more complete inspection of the upper respiratory tract. A complete history of the case should always be obtained, which will frequently aid in the diagnosis, and may also assist in the selection of the most appropriate treatment for relieving the patient. The nose and throat specialist should avoid the tendency of becoming narrow in his views, and of seeing the patient only through the nasal speculum and laryngoscopic mirror; he should be as familiar with matters of general medicine as the general practitioner, and should make it his motto not to know less of general medicine, but to know more of rhino-laryngology.

When an operation is absolutely demanded, this should be fully explained to the patient, and where the physician is known to be conservative in his tendency, little difficulty would be had in obtaining the required consent. The faithful observance of these rules will remove the odium of excessive surgery from our specialty, and will do much to obtain for it the respect and appreciation to which it is so well entitled.

THE INNERVATION OF THE MUSCLES OF THE SOFT PALATE

BY WILLIAM ALDREN TURNER, M.D., F.R.C.P.

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Although it is commonplace in neurology to say that the elevator of the soft palate is innervated by one of the bulbar nerves, yet it is stated in many anatomical textbooks, and in some on clinical medicine of recent publication, that this muscle receives its nerve supply from the facial nerve, and is paralyzed in some forms of peripheral facial palsy.

The doctrine of the facial supply of levator palati muscle, as held in England, probably originates from the teaching of Sir Charles Bell; for it has generally been maintained in Germany that the palatal muscles were supplied by one of the nerves arising from the medulla oblongata. Records of cases in which unilateral paralysis of the soft palate was associated with facial palsy are to be found scattered throughout medical literature; but as the observers only noted the position of the uvula, it is doubtful whether real paralysis of the palate was present in many of these cases. The experimental evidence, moreover, is opposed to the teaching of the facial nervous supply; for John Reid (1849) was unable to produce contraction of the palatal muscles on stimulation of the facial nerve; and this observation has been amply confirmed by many subsequent physiologists. The association of facial with palatal palsy, which has undoubtedly been observed and recorded, is no-doubt due, from knowledge now at our disposal to a double lesion, involving both the facial and bulbar nerves.

The clinical observations of Hughlings Jackson in 1864, and of numerous others subsequently, taken in conjunction with the experimental records of John Reid, Volkmann and Claudé Bernard (to mention only a few of the experimenters) clearly showed that the innervation of the levator palate was to be found, not through the facial but through the bulbar nerves. The bulk of evidence produced by their observations was in favor of the accessory nerve to the vagus being the motor nerve to the muscles of the soft palate and the course of the fibres was simple. The nucleus accessorii vagi gave origin among other fibres to those for the levator palati

muscle, which ran in the lower vagal or accessorius roots, and passed by way of the pharyngeal plexus to the soft palate, where they were distributed to the muscles.

The view generally held by those with whom the facial theory of palatal innervation was impossible, was that the levator palati muscle received its nerve supply through the roots of the nervous accessorius vagi.

Recently, however, a change in our conception of the relations to each other and in the terminology of the bulbar nerves, has taken place. Except outside the skull, where their distribution is clear, there exist no means of distinguishing anatomically the glossopharyngeus, vagus and accessorius nerve roots, except inferentially by their position. This change has on the one hand ensued upon more exact methods of studying the nucleus of origin of the nerve roots, both normally and in diseased conditions, more especially in chronic progressive bulbar palsy. These methods have shown that the nuclei of origin of the bulbar nerves—glossopharyngeus and vagus—are really parts of one mixed nerve, having a dendrite nucleus of origin of their efferent (motor) fibres—the nucleus ambiguus; and that their afferent fibres terminate, in part at least, in the so-called end nucleus of the vago-glossopharyngeal nerve.

On the other hand, the nomenclature of the textbooks has been subjected to criticism. Spencer (*Lancet*, 1895, i. p. 476,) has pointed out that the description of the root of the bulbar nerves, as given by Willis, has not been universally followed. He has shown that the term "accessory" was applied by this anatomist to the spinal nerve, which was accessory to the vagus, and that it passed to the sterno mastoid and trapezius muscles. Owing to a misuse of the term "accessory" it came to be applied to the lowest fibres arising from the bulb, which fibres did not belong to the accessory nerve, not to the vagus, as Willis had shown. Hence the nerves of bulbar origin are glossopharyngeus and vagus (in addition to the hypoglossal); while the accessory nerve, or nerve of Willis, is of spinal origin.

We are, therefore, led to the conclusion that the lowest of the bulbar nerve roots are vagal, and they arise from the *nucleus ambiguus*. In many cases of bulbar paralysis the cells of this nucleus have been found atrophied. In nearly all cases of chronic bulbar palsy there is at first paresis and eventually paralysis of the velum pendulum palati. A comparison of the clinical phenomena in this disease with the pathological facts indicates that the nucleus

ambiguous is the nucleus of origin of the motor fibres for the levator palati muscle. From the lower end of this nucleus the lowermost of the vagal root fibres emerge, and passing into the trunk of the vagus nerve are given off by the pharyngeal branches to the pharyngeal plexus, from which they are distributed to the levator muscles of the palate.

The three steps in the history of the innervation of the muscles or the soft palate may therefore be summarized as follows:

1. From the trunk of the facial nerve, through the vidian and large superficial petrosal nerves to the sphenopalatine ganglion, and thence by the posterior palatium branch to the soft palate—a view no longer maintained.

2. By the accessorius vagi nerve to the trunk of the pneumogastric, and then by the pharyngeal branches to the pharyngeal plexus and soft palate.

3. From the lower end of the nucleus ambiguus through the lower vagal roots to the pneumogastric nerve trunk, reaching the soft palate by the pharyngeal branches and pharyngeal plexus.

The last is the view upon the origin and course of the palatal motor fibres, which receives much support from recent investigation.

Unilateral palatal palsy is a rare condition, but one which falls more commonly into the domain of the laryngologist, as it is almost invariably associated with paralysis or paresis of the vocal cord upon the same side. The reason of this association is obvious, in that both the levator palati muscle and some of the muscles which move the vocal cords receive their nerve supply from the same medullary nucleus—the nucleus ambiguus.

The first point to be borne in mind in the recognition of unilateral palatal palsy is, that it is only recognizable when the patient is made to phonate, while the second point lies in dissociating any clinical value from the position or deviation of the uvula.

In unilateral palsy there is said to be, when at rest, a lowered and less-arched condition of the velum; but upon this sign, if it exist, no reliance should be placed. The only true evidence of palsy of one side of the palate is the *absence of the movement of that side on phonation*, the opposite side being freely elevated. In complete bilateral palsy, there is no palatal movement on sounding the word "ah;" and the pronunciation of those words requiring closure of the naso-pharynx is rendered imperfect. Hence, "rub" is pronounced "rum," and "egg" as "eng."

There may exist all degrees of bilateral palsy, from the complete

form best seen as an early post-diphtheritic phenomenon, to the incomplete variety of early bulbar palsy.

The conditions under which palatal palsy may be met are:

1. Diseases interfering with the nucleus ambiguus in the medulla oblongata, these are (*a*) chronic bulbar paralysis, in which is found a progressive bilateral degeneration of the nerve cells. (*b*) *Tabes dorsalis*, a state in which the degeneration of the nucleus may be on one or both sides. (*c*) *Symigomyelia*, characterized by new growth formation extending upward into the medulla oblongata and involving the nuclei of origin of the nerve root.

2. Implication of the nerve root between their emergence from the side of the bulb and their exit from the cranium through the jugular foramen. The causes of this are numerous, but are chiefly meningeal, *e. g.*, syphilitic, and malignant affections of the membranes of the basis cranii.

3. From the pressure of malignant, tubercular or other growths deeply in the neck upon the bunch of the vagus before the pharyngeal branches are given off.

In conclusion, it may be stated, that the evidence is in favor of the *tensor palati muscle* receiving its nerve supply through the motor division of the fifth cranial nerve. Stimulation of this nerve, after the mucous membrane has been removed from the soft palate, has shown obvious contraction of the fibres of this muscle. (Henri, Rethi.)

Extirpation of Soft Palate and Tonsil for Carcinoma—EDWARD H.

LEE—*Medicine*, February, 1898.

The patient, a man aged fifty-three, had good family and personal history. No cause could be found for carcinoma except smoking. The trouble had existed nine months at the time of operation. Swallowing became painful the second month and had increased up to a point of not allowing the swallowing of solid food. The tumor involved the whole soft palate and left tonsil and was one inch in diameter. The microscope established the diagnosis of carcinoma. The submaxillary gland was enlarged.

The first step in the operation was the ligation of the external carotid to control hemorrhage; the second, inferior tracheotomy and packing the larynx with gauze; the third, temporary resection of the symphysis of the inferior maxillary bone and drawing the tongue into the space thus formed to make room for work; the fourth, the removal of tumor by dissection and suturing incised edge to mucous membrane of the hard palate with the interrupted suture. Six months after the operation there was no sign of a return of the tumor.

EWING. (BISHOP.)

UNUSUAL SIZED RHINOLITH REMOVED WITH THE LITHOTRITE, WITH PROMPT CESSATION OF PROLONGED DISTURBANCES.*

BY J. F. HILL, M.D.

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Though foreign bodies in the nose are not uncommonly observed, the history of the case which is herewith offered, will probably prove of some interest, not only on account of the prolonged suffering which was experienced without obtaining any relief, but also on account of the unusual size of the disturbing factor which was found to be the cause of the so-called "incurable catarrh." Furthermore, the subsequent history of the case proves conclusively that nasal obstruction has decided bearing upon middle ear ventilation, as shown by the prompt cessation of the tinnitus, together with the restoration of the hearing after the obstruction was removed.

Mrs. R., aged sixty years, consulted me on May 31, 1897, for nasal catarrh. She gave the following history:

For nearly twenty-five years had been afflicted with a profuse offensive discharge from the anterior and posterior nares. During that period she had consulted several physicians, who had prescribed washes and given her the comforting assurance that there was no cure, as the disease was due entirely to the climate. Of late years she had noticed a gradual loss of hearing in the right ear, tinnitus aurium, epiphora of right eye and epistaxis; and severe headaches had become of daily occurrence. She had not been able to lie upon her right side for five years without increasing the headaches and tinnitus.

Examination showed that the external nose (right side) presented a distinct deflection of the dorsum. The right nasal passage was impervious to air and was filled up with a thick muco-purulent discharge and granulations. There was a marked deflection of septum in left nostril toward that side.

After thoroughly syringing both cavities with an alkaline solution,

*Read before the Meeting of the American Laryngological, Rhinological and Otological Society, held in Pittsburg, Pa., May 11, 1898.

I passed a pledget of cotton, saturated with an eight per cent solution of cocaine, into the right nares, for the purpose of reducing the swelling of the mucous membrane and producing local anæsthesia. By posterior rhinoscopy the mass could be distinctly seen as a grayish substance nearly filling the posterior nares. The outline of the turbinated bodies could hardly be made out. Again directing my attention to the anterior nares, I removed the pledget of cotton, and curetting away some granulations, came upon a hard and roughened substance, about three-quarters of an inch from the tip of the nose and completely filling the anterior nares. With a hook, I endeavored to dislodge it, but found it immovable.

Upon questioning her, she stated that she had no recollection of ever having put anything into the nose. Having satisfied myself, however, that I had to deal with a rhinolith, I advised its immediate



Fig. 1.—Major portion of Rhinolith.

removal. She readily consented, and the following morning, with the assistance of my colleague, Dr. Thayer, the patient having been thoroughly etherized, I removed the mass, by crushing with an ordinary lithotrite, designed for crushing urinary calculi.

It was impossible either to determine its exact size or weight, as in using the lithotrite to break up the mass, undoubtedly many of the smaller pieces were lost in the copious hemorrhage which attended the operation. The weight of that which I was able to save, and which I submit for your inspection, is 275 grains.

The inferior and middle turbinated bones were much atrophied and ulcerated. After cleansing the nostrils, I curetted the surfaces of the inferior and middle turbinated bodies, and syringing with a

one to 5000 solution of bichloride, followed by sterilized water, packed the nostril with plain gauze. This packing was allowed to remain in forty-eight hours, when it was gently removed; again syringed out as before, and repacked, though less firmly.

On the fifth day the packing was omitted, but a strip of gauze was passed into the nostril to keep the surfaces apart and prevent adhesions. At the end of two weeks the gauze was entirely dispensed with, but the nostrils were cleaned three or four times a day for a month.

I discharged the case July 7, about five weeks after the operation. At this time there was no perceptible deflection of the dorsum, and she claimed that all the disturbances which she had suffered had passed away. She can lie upon either side with perfect comfort. There is no epiphora nor tinnitus. The hearing is nearly as good in the right as the left ear, and headaches are a thing of the past.

Serious Consequences following Intranasal Operations—ROBERT LEVY—*Denver Med. Times*, Vol. xvii, No. 11, May, 1898.

Two cases and an instructive bibliography are here published.

The first case was one of the author's. A young man, a medical student, of very nervous temperament, who had suffered from rheumatism, was operated upon by Levy successfully for a septal spur, with prompt recovery. Later patient, impressed by presence of deflected septum, prevailed upon Levy to operate. He did Asch's operation, and patient wore a removable tube, and after third day was not seen for ten days; he then appeared much depressed; profuse perspiration; some fever; pulse 120; complained of intense headache and pain in both knee joints. In spite of treatment death ensued in two weeks. Necropsy showed subcutaneous infarcts, and thrombus of posterior cerebral artery, endocarditis, pericarditis. Cause of death, general septicæmia.

The second case was in practice of Bulette, of Pueblo, Colo. A young woman was operated upon for large exostoses of both sides of septum, under asepsis. Good recovery from operation on right side. Two days after operation on left side there were symptoms of cerebral meningitis, and death on second day. No autopsy.

Levy warns against indiscriminate operations, and his bibliography abundantly illustrates the dangers. EATON.

CASE OF ADENO-CARCINOMA OF THE NOSE.*

BY MAX THORNER, M.D., CINCINNATI, OHIO.

The author refers to the confusion regarding the nomenclature of nasal tumors. In his paper he wishes to speak about such neoplasms only as are histologically to be classed as adenomata and adeno-carcinomata. The case under consideration is one in which a typical adenoma of the nose developed into an adeno-carcinoma.

The case reported is that of a farmer, aged forty-seven, white, who was referred to the author by Dr. Churchman, of Charleston, W. Va.

About one year ago he noticed some obstruction in the nasal cavity which gradually increased until breathing through that side was absolutely impossible. Four months after he noticed the trouble, the doctor removed a large growth from the nose with a snare, after which breathing was again free for about one month. Then the same trouble reappeared. Another large portion of the growth was again removed. Then he was free for about two weeks, when breathing was impeded again, and two weeks later the left nasal cavity was entirely closed. Operation was repeated in intervals of about one month, so that up to the present time eight operations have been performed. The operations were followed by moderate hemorrhage, and for most of the time were not very painful. His only complaint was the obstruction to breathing. Has not lost weight. Appetite good.

The following is the condition upon entrance into the hospital: Man of medium size, fairly well nourished, nothing abnormal to be seen about his face. Hearing in left ear diminished, the left side of the nose entirely obstructed by a growth which extends from the vestibulum backward, and fills completely the space between the choana and the Eustachian tube; color greyish-red, surface uneven and resembling somewhat a mass of cauliflower, is soft and bleeds upon touch; origin cannot be ascertained, but it appears to come from the middle meatus, which is completely obliterated. Septum free from growth; no glands enlarged. During my absence Dr. Allen removed with cold wire snare a large portion which surrounded the orifice of the Eustachian tube. Hemorrhage rather abundant.

*Author's Abstract of a paper read at the Annual Meeting of the American Laryngological, Rhinological and Otological Society, at Pittsburg, May 11-12, 1898.

Microscopic examination showed the removed pieces to be typical adenoma. October 5, about two and a half weeks after this operation, nose began to be again obstructed. I removed with cold wire snare as much of the growth as I could. Microscopic examination confirmed the first diagnosis. On October 22, the nose was again entirely obstructed. Operation under chloroform anæsthesia, in which an enormous amount of the tumor was removed from the nose and post-nasal space with snare and curette. Pieces varying in size from a filbert to that of a small walnut were removed. They all were very friable, hemorrhage abundant. Left side of nose was packed with iodoform gauze. Patient did very well after operation; no hemorrhage after removal of the plug.

On October 29, one week after the operation, the growth was seen to return. The patient was now given to understand that there was no hope to remove all of the growth by intranasal procedure, and the advisability of a more radical operation by temporary resection of the upper jaw was suggested to him. The patient refused operation and left the hospital.

Portions of the growth at this last operation were examined by Dr. Albert H. Freiberg, then microscopist of the hospital, who had the kindness to send me following:

The surface of the growth is not papillary but smooth. Lying in a well developed stroma of young connective tissue abounding in easily stained nuclei is seen an enormous aggregation of tubuli of various conformation. Some of them are fairly straight, with lumina of small calibre, others convoluted in their course, and others still short, with large dilated lumina, reminding one of cystic formation. Here and there is to be seen an atypical collection of epithelial cells without evident lumen.

The tubuli are lined with a tall cylindrical epithelium whose nucleus is large and very easily stained. I have been unable to detect anything like cilia on these epithelia. Taken altogether the picture reminds one forcibly of the malignant adenoma of the uterus I should call it malignant adenoma.

For the rest of the history of this case I am indebted to Dr. Churchman, of Charleston. A few months after the last operation the patient began to decline. The growth had to be removed every few weeks. On April 25, Dr. C. wrote that he had operated upon him eight or ten times since he left Cincinnati. The operations had grown to be very painful. General health very bad, sallow complexion. The septum and right side of the nose had become involved; eyelids were edematous. At this time he seemed to be will-

ing to have any operation done. Meanwhile, Dr. C. had some of the masses removed on April 25, sent to the pathological laboratory of Johns Hopkins Hospital. The report was that it was a typical case of adenoma changing into an epithelioma. Dr. C. did not see the patient for one week; when he saw him again his nose was double its size and was purple; his eyes were very much swollen, protruding and bloodshot, and he was not able to swallow anything but soft and liquid food. The patient returned to his home, and Dr. C. did not see him any more. He died on June 12, but Dr. C. did not hear of it until after he was buried, when he received the remainder of the history from the family physician; which is as follows: The patient grew rapidly worse; the growth broke through the walls of the nose at its bridge, from where severe hemorrhages took place; the left orbit was more and more involved until two and one-half weeks before death, the left eye was destroyed; at the time of his death the growth in left orbit was two and a half inches in diameter, and bleeding all the time. No hearing for ten days preceding his death, his mind was entirely destroyed the last five or six days.

We have to deal here with a case of malignant disease of the nose, and if correct statements were given the duration of the trouble was about one year and nine months, or perhaps two years. The question arises whether this was an adenoma that underwent carcinomatous changes, or whether it was not a case of a benign tumor, in addition to which there developed later a carcinoma. Adenoma of the nose is looked upon by many as a benign tumor, however, all authors are agreed upon the possibility, and some even on the probability, of an adenoma becoming malignant. Pathologists and clinicians mention the manifest malignant tendencies of adenoma of the mucous membranes, and speak of a form of adenoma of the uterus as adenoma malignant. In a still further advanced stage, when the epithelial elements assume the shape of dense cell conglomerations, we are in the habit, according to Ziegler, to call such a growth an adeno-carcinoma. And with such an occurrence, no doubt, we had to deal with in this case.

SARCOMA OF THE NASO-PHARYNX, WITH REPORT OF A CASE.*

BY D. A. HENGST, M.D.

Laryngologist and Otologist to Mercy Hospital, Pittsburg, Pa.

The naso-pharynx is not often affected by malignant disease; sarcoma seems to be met with more frequently than carcinoma, and of these medical literature contains the report of but a limited number of cases.

In the first volume of Dr. Bosworth's work on diseases of the nose and throat he gives a report of nineteen cases of sarcoma, located in the naso-pharynx, all that he had been able to collect up to that time—1889.

Sarcoma is a disease of earlier life than carcinoma. Of Bosworth's nineteen cases, ten occurred between the ages of one and thirty years, and of the ten, five were between ten and twenty years of age. His cases were also more common among males than females in the proportion of almost one to three.

Symptoms.—The only symptom in the earlier stages which might make the symptoms differ from other tumors of the same region is the character of the secretion, which is of a sero-mucous character, and quite ichorous and offensive. This is quite an early symptom, and with the presence of a growth would of itself be almost diagnostic. Epistaxis, though slight, is liable to occur in many of the cases.

There is no special sarcomatous cachexia, but the general health suffers early in the history of the case; this is usually observed before there is any mechanical interference with respiration or deglutition. This impairment of the general health so early in the disease may be due to the offensive character of the discharge, which no doubt impairs digestion and poisons the inspired air. We all know that benign tumors of the naso-pharynx, on account of interference with oxygenation of the blood, will greatly interfere with the general health, especially in young persons, among whom we find the majority of these growths. After the sarcomatous tumor has increased in size there will also be difficult deglutition and attacks of dyspnœa.

*Read at the Fourth Annual Meeting of the American Laryngological, Rhinological and Otological Association, held at Pittsburg, May 11 and 12, 1898.

Impaired hearing, by incroachment upon the Eustachian tube, is also a prominent symptom, and there may be suppurative otitis media.

All the special senses except that of sight are usually impaired or abolished.

The origin of a sarcomatous growth is usually from the basilar process of the occipital bone, beginning in the deeper layers of the mucous membrane lining the naso-pharynx, and growing in the form of lobulated rounded growth, and as it spreads downward closing the posterior nares, and forming attachments by infiltration in all directions. The tumor will assume an irregular rounded or lobulated shape, having a pinkish or somewhat muddy color, according to vascularity, between the somewhat translucent appearance of a myxoma and the pinkish-white opaque look of a fibroma.

The only positive way of making a diagnosis is the removal of a small section and making a microscopic examination of the same.

Carcinoma may be diagnosticated from sarcoma by the hard feeling of the former, which is quite different from the softer consistency of the latter. The question whether the tumor arises in the nasal cavity or the naso-pharynx is not always an easy matter to decide; a naso-pharyngeal growth, whether fibroma or sarcoma, is said to produce a unilateral, while a nasal growth gives rise to a bilateral stenosis, a point of some importance. Bosworth believes that the converse is true. In the case to be reported the former theory proved to be correct.

A nasal tumor is rarely attended with secondary infiltration of the cervical glands, or, if it is, not until late in the course of the disease. In naso-pharyngeal cases, if it does occur at all, it will likely be earlier in its course. Enlargement of the cervical glands is said to occur in about one-third of the cases; in my case there was no involvement.

Sarcoma of the nasal cavities does not show a disposition to advance into the pharynx. It is said that a sarcomatous tumor, more or less filling the pharynx, is pretty clear evidence that it originated in the naso-pharynx.

Prognosis.—The earlier in life the more rapid the course of a sarcoma; the character of the tumor also has something to do with the prognosis; a tumor composed of small round cells runs a much more rapid course than a spindle-celled growth; a fibro sarcoma, on account of the fibrous tissue, would not grow as rapidly as the others. In Bosworth's nineteen cases the patients, with one exception, all died either as a result of the operation or within a few months from

a rapid recurrence of the disease. In the other case the patient was alive seven years after the removal of the tumor with no symptoms of any recurrence. On general principles we may, therefore, regard the prognosis as exceedingly unfavorable.

Treatment.—The points in the treatment are the use of the cold wire snare, galvano-cautery snare; slitting of the palate, or the external operation. Outside of the question of hemorrhage, which is not usually severe, my preference would be the cold wire snare, when there is no infiltration of the tumor with the sides of the pharynx, and when it can be encircled within the snare and used through the snares. In slitting the plate the growth may sometimes be encircled with a heavy snare or ecraseur, and after its removal the cut surface thoroughly cauterized, although there is some danger of exciting inflammatory reaction of a severe character in the surrounding healthy structure.

The external operation should only be performed when all other means are out of the question, and it gives any promise of prolonging the life of the patient, the patient being in a fair condition at the time of operation.

The following case, Jas. R., aged fourteen years, was admitted into my service at the Mercy Hospital on October 5, 1897, with the following history:

For the last two months he had difficulty in breathing through the right nostril, and somewhat less marked on left side; difficult and painful swallowing, headache, dullness of hearing, more marked on right than left side, an ichorous irritating discharge from the nostrils, slight epistaxis at times. There was no marked cachexia, but considerable emaciation, and no enlargement of the cervical glands. His father stated that he seemed to be in a sleepy state most of the time, and he complained of slight pain in the throat. On examination of the throat there was found to be a bulging forward of the right side of soft palate, presenting almost the appearance of an acute phlegmonous tonsillitis. The left side was not so markedly protruding, although not normal; on introduction of the finger into the naso-pharynx, a semi-solid mass could be felt, almost completely filling the post-nasal space; the posterior nares could not be felt, and the mass was completely attached to the walls of the pharynx and soft palate; only slight bleeding was caused by the examination.

There was not much doubt in my mind as to the nature of this growth. The question of its removal was next to be taken into consideration; to remove with the wire snare through the nose was impossible on account of the infiltration with the surrounding tissues.

To encircle the tumor with an ecraseur introduced through the mouth into the naso-pharynx was also out of the question on account of adhesions all around.

On consultation with Dr. J. J. Buchanan, surgeon to the hospital, it was decided that the external operation was the only method offering any chances whatever, accordingly on October 10, five days after admission, the operation was performed by Dr. Buchanan, in the following manner:

An incision was made transversely from the zygomatic process of the malar bone, skirting the lower border of the orbit to its inner and lower angle. It was then continued downward in the re-entering angle between the nose and cheek and along the upper lip to the middle line, where it was turned downward, dividing the lip at its middle. The soft parts including the periosteum were separated from the superior maxillary and malar bones at their junction.

A blunt hook was then passed around both bones at this point, and used to draw a wire saw beneath them. This saw was left in place. Another saw was passed under the nasal process of the superior maxilla and also left in place. A median incision to the bone was made in the roof of the mouth from the incisor teeth backward and the soft palate and uvula split in the middle line.

A drill hole was made well back in the middle line of the hard palate and a wire saw drawn through into the nostril alongside the septum.

The bones were sawn through in a few seconds with the three saws and the superior maxilla was lifted from its bed with a Ferguson's forceps and turned to the outer side where it hung out of the way attached to the face only by a pedicle of soft tissues. The infiltrating growth was cut away with scissors and required extensive dissection, it being impossible to remove it in its entirety.

The jaw was returned to place and held there by buried wire sutures. The soft parts, including the soft palate and uvula were sutured and but few signs of the operation remained.

The patient made a good recovery so far as the operation was concerned; the extensive wound healing promptly and showing very little scar, but in short time the naso-pharynx again filled up, and the patient died November 4, twenty-five days after the operation.

Examination was made by Dr. Singley, pathologist to the hospital and found to be a small round-celled sarcoma.

515 Penn Avenue.

TRANSILLUMINATION IN THE DIAGNOSIS OF SINUS DISEASE.*

BY CHAS. H. KNIGHT, M.D., NEW YORK.

The purpose of this brief paper is to assist in establishing a just estimate of transillumination as a diagnostic test.

No reference will be made to the history or literature of the subject. It is merely a record of personal experience based on a study of more than two hundred cases examined during the last six months. The examinations were made without reference to pathological conditions, although, of course, most of the subjects had more or less derangement of the upper air passages.

The symptoms of sinus disease are often so obscure that we may be forced to resort to any measure that may facilitate diagnosis, even though under certain circumstances it may be misleading. Some of the prevailing scepticism as to the value of the light test results from a study of the uncovered skull. For clinical purposes it is obvious that conclusions thus reached may be fallacious, since a relatively small antrum, for example, may have a thin, translucent lining membrane, while on the other hand a capacious antrum may have a dense, impenetrable wall. The transmission of light may be obstructed not only by a thickened mucous membrane, but by various anomalies in the bones constituting the walls of the antrum. Among the latter may be mentioned bony septa subdividing the cavity, exostoses projecting into it, or unusual thickening or distortion of the bony wall. Deficient resorption of the maxillary bones would give a contracted antrum and proportionate diminution of light, while excessive resorption would increase the dimensions of the antrum and give a more intense light. The latter result is said to be associated also with those rare conditions designated mucocoele and cyst of the antrum. I have had but one opportunity to examine a case of cyst, and in that the light was decidedly brighter on the affected side owing to expansion of the cavity and extreme thinning of its anterior wall. In this case before the light test was employed it was the opinion of several that the antrum was occupied by a solid tumor.

In making these investigations three points were noted: First, the appearance of the pupils; second, perception of the flash of light on

*Read before Meeting of Laryngological Section, New York Academy of Medicine, May 25, 1898.

the part of the patient with his eyes closed, and third, the extent of the light area in the antral region. The first is not important and is influenced more or less by the thickness of the orbital plate. In the majority of cases the pupils appear brightly illuminated. In observing the second point allowance must be made for the stupidity or imagination of the patient, and it also is not of much moment. The third point, as the one of chief interest, will be the only one here referred to. The data to be given presently will relate exclusively to the maxillary sinus. Incidentally I may mention that variations in the dimensions of the frontal sinuses appeared to be more extreme and in a small number of cases a median septum could be distinctly demonstrated.

Four (4) of the cases on my list were unquestionably empyema and gave marked and characteristic results on application of the electric lamp. Two of these were treated by perforation through the alveolus and all have exhibited increase of translucency as improvement has progressed under treatment.

Five (5) cases with suspicious histories showed inequality in light area, and in three of these the symptoms pointed unmistakably to old suppuration of the antrum which had never been recognized.

In eighteen (18) cases there was more or less difference between the two sides of the face, but in none of these were there any symptoms whatever of any form of antral disease.

In two (2) cases both antra were in absolute shadow. Both of those patients were men with very high-arched palates and very flat faces. One had pronounced hypertrophic rhinitis and the other a large collection of nasal polypi. The conditions were relieved without affecting the opacity of the antra or disclosing pus within them.

In one hundred and seventy-one (171) cases no difference in the light area of the two sides could be detected. One of these cases while under observation had an attack of acute inflammation of the antrum which presented all the classical symptoms and responded very graphically to the light test.

How should these figures be interpreted? It seems to me that with ordinary care the proportion of cases in which the light may prove delusive is extremely small. An antrum filled with pus must be opaque. Almost the only chance for error is in the case of an asymmetrical skull, of which the larger antrum contains a small quantity of pus. In the absence of subjective symptoms a dark antrum does not authorize a diagnosis of empyema. The evidence furnished by transillumination, therefore, must be regarded as cor-

roborative rather than by itself conclusive. It may not be infallible, but it surely has its place in adding to the certainty of diagnosis.

In conclusion, I wish to protest against explorative puncture of the antrum as a diagnostic measure. In my opinion it is a dangerous procedure. For instance, in a recent suspected case punctures on three consecutive days disclosed pus on the third trial. To my mind such a result is by no means surprising. If pus was present on the first attempt the experiment was a failure; if the exploring trocar was the source of infection, not an unreasonable supposition, it was worse than useless.

With equal emphasis I would protest against the adoption of the usual methods of surgical interference in all cases of empyema of the antrum. In certain quarters it is the fashion to plunge into every antrum supposed to contain pus. An opening is made through the alveolus, the antral cavity is irrigated, then packed with gauze, or a drainage tube is inserted. In many cases this is wholly unnecessary.

The principle of treatment I would advocate is as follows: In all cases of pus in the maxillary sinus in which a diseased tooth is *not* an etiological factor, the proper course to pursue is to cut away all overgrowth of tissue in the region of the ostium maxillare in order to restore normal drainage through the anatomical outlet of the cavity. It is not difficult to wash out and medicate the antrum by this way and in a fair proportion of cases a cure may be thus obtained in a relatively short time with comparatively slight discomfort to the patient. Should improvement fail to follow in the course of a few weeks, we must conclude that the mucous lining of the sinus has undergone degeneration which necessitates curetting of its walls through an artificial opening.

147 West Fifty-seventh Street.

Adenoids in the First Year of Childhood—H. CUVILLIER, Paris—
Am. Med. Surg. Bulletin, Vol. xii, No. 9.

In his experience the author has met with sixty-four cases of adenoids in children under one year of age. Laryngo-tracheitis, laryngismus stridulus, spasm of the glottis and emphysema have been observed as sequelæ.

This observer resorts to the medicinal treatment in young subjects, employing instillations of menthol in oil; 1:60; or resorcin, 1 to 50 or 25.

LEDERMAN.

**DEATH FOLLOWING IMMEDIATELY AN OPERATION
FOR NASO-PHARYNGEAL ADENOIDS UNDER CHLO-
ROFORM, WITH REMARKS ON CHLOROFORM
ANÆSTHESIA IN THIS OPERATION.***

FRANK WHITEHILL HINKEL, A.M., M.D., BUFFALO, N.Y.

A boy, aged eight years, was operated on for naso-pharyngeal adenoids to relieve recurring catarrhal otitis. Chloroform was administered carefully by a skilled anæsthetist. It was taken badly, with vomiting and severe glottic spasm. On account of the vomiting and incidental delays about one ounce of chloroform was administered in all. The chloroform was removed to make way for the operation and at that time the pulse was good. The operation occupied but a very few moments. Just at its conclusion the boy gave a few hurried shallow gasps and respiration and pulse ceased at once. Persistent efforts at resuscitation with continued artificial respiration were without effect. No post-mortem was obtained.

Chloroform has been in the past the most generally used anæsthetic in this operation on account of its convenience and the belief that it is a relatively safe anæsthetic for children. In 1896, Dr. Holloway reported, in the *Medical Magazine*, of London, eleven deaths under chloroform in operations on the tonsils and naso-pharyngeal adenoids. This list I am able to increase to eighteen deaths under similar circumstances that have been reported since 1892. (A brief report of seven fatal cases follows.)

Observations by Paltauf, Kolisko and others throw some light on the causes of the mortality under chloroform in this operation. In a number of cases of sudden death from slight causes, hypertrophy of the lymphoid tissue throughout the body was found, including the tonsils, lymphoid structures at the root of the tongue and the naso-pharyngeal adenoids. The thymus gland was persistent and enlarged and the intestinal follicles were hypertrophied. There were frequently present a dilated heart not dependent on valvular lesions, and a narrowing of the aorta and the arterial system generally. This condition, which has been called *habitus lymphaticus*, was found amongst others in a number of deaths during chloroform administration. People so constituted seem to have little power of resistance

*Author's abstract of a paper read at the annual meeting of the American Laryngological, Rhinological and Otological Society, Pittsburg, May 11-12, 1898.

to comparatively slight shocks. Paltauf believes the cause of death should be sought in a constitutional distrophy. The exaggerated development of the thymus or its abnormal persistence constitutes a concomitant symptom, as does also the hypertrophy of the lymphoid ganglions or tonsils. A result of this condition is an increased vulnerability and a particular predisposition to cardiac syncope.

We have here assigned as a cause of death under chloroform, narcosis, the very constitutional condition one of whose manifestations is the hypertrophied naso-pharyngeal adenoid tissue, for which we so frequently operate.

But six authentic cases of death, attributable solely to the adenoid operation, are on record—all from hemorrhage primary or secondary. Deaths due to tonsillotomy are of extreme rarity. We have then operations whose mortality is insignificant, showing in less than five years eighteen deaths attributable to the chloroform administered for their performance. The conclusion seems inevitable that the use of chloroform for the removal of hypertrophied pharyngeal and faucial adenoid tissue is attended by great risks, and that chloroform should be used for this purpose only under peculiar circumstances and after careful consideration.

The brief anæsthesia usually required for the adenoid operation may be obtained in the majority of cases by nitrous oxide and ethyl bromide, or if a longer period of anæsthesia is desired we can use ether.

In conclusion, the following affirmations are submitted for discussion:

1. Statistics show an exceptionally high mortality from chloroform anæsthesia in the operation for the removal of lymphoid hypertrophies of the pharynx.
 2. The observations of the Vienna pathologists show that sufferers from "adenoids" frequently belong to an abnormal constitutional type that has been found peculiarly susceptible to chloroform narcosis.
 3. In view of the statistical and pathological data presented, the general use of chloroform in the operation for hypertrophied tonsils or naso-pharyngeal adenoids is inadmissible.
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THE DIFFERENTIAL DIAGNOSIS OF VASCULAR AND MUSCULAR TINNITUS AURIUM.

BY THOS. F. RUMBOLD, M.D., ST. LOUIS.

If the ear sounds, that are occasioned by disease of the ear, are carefully analyzed, they will be observed to be of only two varieties, and these very different in several respects. Not only do these ear noises differ in the character of the sounds, but also in the location of their origin, in their etiology, in their mechanism, and in their treatment. It is thus seen that it is of the utmost importance to be able to differentiate between the two kinds of tinnitus; for a treatment or procedure that would be of great value to a patient suffering from one variety, would be decidedly injurious, if not disastrous, to one suffering from the other variety.

One variety is caused by the flow of blood through the irregular-calibered blood vessels of the internal ear, or of those in its neighborhood, producing vibrations by the passage of the blood through the abnormal vessels. This kind of ear sounds I have named *vascular tinnitus aurium*.^{*} The other variety is produced by the action of diseased muscles of the middle ear, producing vibrations by a series of alternate contractions and relaxations. This I have named *muscular tinnitus aurium*. This nomenclature will locate each kind of sound, give its origin, and, at the same time, describe the kind of sound meant.

It has long been known that many persons, who are partially deaf and experience excessive noises in their ears, will hear a conversation in a moving railroad coach better than in a quiet room, showing plainly that extrinsic noises have a controlling influence upon the abnormal sounds experienced in their ears. This is positive proof that all such persons are afflicted with muscular tinnitus aurium.

The sound or sounds that are formed in the internal ear and its neighborhood, *i.e.*, vascular tinnitus aurium, will not be decreased by extrinsic noises of any kind. The noisy railway coach is certain to further decrease the ability to hear, showing plainly that these kinds of ear sounds are not controlled by extrinsic noises.

A person may suffer from both varieties of these ear sounds at the same time.

^{*}See article on "The Functions of the Tensor Tympani and Stapedius Muscles, and incidentally the Mechanism of Tinnitus Aurium," by the author, in the September, 1897, number of the LARYNGOSCOPE.

Ear sounds that are formed by a series of alternate contractions and relaxations—*i.e.*, a paralysis agitans of the muscles of the middle ear, giving rise to muscular tinnitus aurium—will cease upon the application of an extrinsic sound to the affecting ear or ears, and will remain absent for from five to sixty seconds, or even a much longer time in many cases.

It is the absence of this kind of ear sounds, thus temporarily driven away by extrinsic sounds that forms the differential diagnosis between the two varieties of tinnitus aurium.

Of course, extrinsic noises cannot control vascular tinnitus aurium, for the simple reason that they cannot control the irregularity of the caliber of the blood vessels, or of the circulation of the blood through these abnormal channels, this being the cause of this variety of ear sounds, but extrinsic noises *can control* the diseased action of the muscoli auditus, the action or trembling of which causes the motion that produces the muscular variety of ear sounds.

The most convenient means that I have employed for making a sound that is easily varied, and at the same time easily applied to the patient's ear or ears, is a Camman's stethoscope, a pair of India rubber bulbs, and an air tube, arranged as shown in Figure 1. With this arrangement the sound sent to the ears from the apparatus can be easily and instantly controlled, and it is simple in its application. The ear extremities of the stethoscope are inserted in the patient's ear or ears. The noise is made by forcing a small stream of air upon the covered extremity of the stethoscope by means of the rubber bulbs. The covering of the trumpet extremity is made by a thin sheet of India rubber. Even a very small, weak stream of air blown on this sheet makes a surprisingly loud but not disagreeable noise. The noise is varied in pitch at will, by approaching and withdrawing the point of the air tube from the rubber sheet, and the volume of sound is varied by varying the force of the air stream. This extraneous noise will *always* temporarily arrest muscular tinnitus aurium, in some cases it will do so in a few seconds. The fact that the sounds are thus arrested, constitutes the differentiation between this variety of tinnitus and the vascular variety. I have employed this method since February, 1894.*

It is not essential to the successful application of this noise that it should be very loud, or very sharp, nor is a great force of air required. Almost any kind of *continuous* noise will make the diagnosis, that is, will temporarily control the muscular tinnitus.

*I have given the reason why this extrinsic noise controls these intrinsic sounds in an article read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, April, 1897, and published in their transactions.

It is advisable to commence with a low sound made by slight air pressure. This low sound is made by removing the point of the air tube to an extreme distance from the sheet of India rubber on the trumpet extremity of the instrument, as shown at *c'*. If the ear sound is controlled at this place, the diagnosis is attained. The nearer the air



FIGURE 1. Illustrating the application of an apparatus for making a differential diagnosis of vascular and muscular tinnitus aurium.

The principle portion of the apparatus is a Camman's stethoscope, *a*; the ear extremities of which are placed in the patient's ears. To the stethoscope is attached, by a holder, *b*, an air tube, *c'*, which directs a stream of compressed air from a pair of rubber bulbs, *d*, upon the thin sheet of rubber that covers the trumpet extremity, *e*, of the stethoscope.

The farther the extremity of the air tube, *c'*, is removed from the rubber sheet, *e*, the coarser or lower is the pitch of the sound heard by the subject, and the nearer this air tube is made to approach the rubber sheet, as at *c''*, the higher is the pitch of the sound. The holder, *b*, is so made that the air tube, *c'*, is allowed to slip backward and forward, so as to vary the pitch of the sound heard by the subject. The more the air is compressed the greater the volume of sound.

The sound may be made to instantly cease by pinching the tube connected with the rubber bulbs, as shown at *f*. In this way the length of time during which the extrinsic noise is thrown into the ear or ears may be noted by a watch that can be held in the hand that checks the stream of compressed air, as shown at *f*.

tube is brought to the trumpet extremity of the instrument, as shown at *c''*, the higher the pitch of the noise made by the air impinging on the rubber sheet. The volume of the sound is increased by increasing the force of the air stream. It is well to vary the distance of the

air tube from the rubber sheet, as well as to vary the force of the air blown upon it. As soon as the pitch as well as the volume of sound is found, that temporarily controls the tinnitus, this should be continued long enough until the differential diagnosis is surely made.

If it is observed that a tinnitus is in one ear only, the tube of the Camman instrument may be taken out of the unaffected ear, so as to throw the differentiating noise into the affected ear alone.

In the case where there are both kinds of tinniti in one ear, the patient will observe an almost instant *abeyance* of the muscular variety, and the *continuance* of the vascular variety. A great many patients at once voluntarily mention this peculiarity.

To enable me to form an opinion as to the chronicity or tenacity of the ear sounds, I have timed the continuance of the application of the extrinsic noise. To do this accurately, I hold my watch in my left hand, as shown at *f*, Figure 1. With the thumb and finger of this hand I can instantly discontinue the stream of air that makes the noise, and thus have the continuance of this noise instantly under complete control. If I find that a continuance of the noise for *five seconds* stops the *muscular tinnitus aurium*, I consider the case more favorable, for relief or cure, than one that requires the application of the noise for *twenty seconds* or longer. Also, the longer the ear sounds remain away, after once being checked, the more favorable is the case for amelioration, even if it can not be cured.

Discussion on Tinnitus in Its Relation to Nasal and Aural Affections—B. A. RANDALL—*Jour. Am. Med. Assn.*, March 19, 1898.

While tinnitus is generally subjective, sight must not be lost of the fact that it is occasionally due to aneurism. Increased tympanic vascularity is of the greatest causative importance. When of vasomotor origin, strychnia and rest are to be recommended. The tympanic cases are many, and the beneficial effect of pneumatic massage will promptly demonstrate that the trouble is located in the tympanic cavity. For the labyrinthine cases not so much can be promised.

PYNCHON. (BISHOP.)

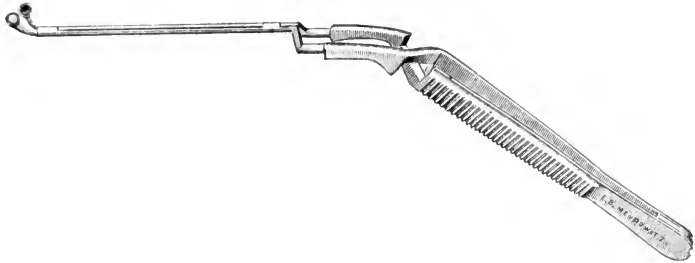
NEW INSTRUMENTS.

MIDDLE-EAR AND OSSICLE FORCEPS.

BY FRANK ALLPORT, M.D., CHICAGO, ILL.

Professor of Ophthalmology in the Chicago Polyclinic, Etc.

I desire briefly to call attention to a middle-ear forceps or curette, devised by me and manufactured by E. B. Meyrowitz, New York. I have found nothing like it on the market, so venture to describe it. It is simply an angular forceps whose confined blades shut by pressure and open by removal of pressure. The two straight blades are made as delicate as is consistent with strength, and held together by bands—one near the angular bending, the other near the rounded points of the instrument. At about the latter vicinity the two blade ends turn gradually upward and become expanded into two hollow semi-balls, which come firmly together upon the pressure with the fingers at the handle, and expand six millimeters upon removing the pressure.



The instrument may be used as a general ear forceps for the removal of foreign bodies, cerumen, etc. ; but is especially designed for the removal of loosened ossicles, polypi and granulations from the vault of the tympanum. The upward bend of the points renders it easy to insinuate them up into the attic, where the eye cannot reach. The blunt bullet points render injury improbable with reasonable care. The rounded concavity of the points and their somewhat sharpened edges make it feasible to curette the walls as the blades close, and at the same time to grasp an ossicle which has previously been loosened from its attachments and hold it firmly until it is removed. To an experienced aurist its utility will be apparent at a glance.

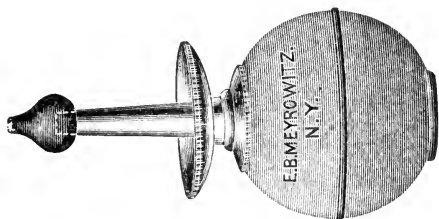
92 State Street.

A NEW ASEPTIC EAR SYRINGE.

BY FRANK ALLPORT, M.D., CHICAGO, ILL.

Professor of Ophthalmology in the Chicago Polyclinic, Etc.

A piston syringe of whatever variety is invariably septic and therefore unfit for use. Let any aurist take apart his nickel-plated ear syringe and smell of and observe the piston and its packing, and bacteriological examinations will be unnecessary to convince him as to its unfitness for use in aural or any other work. I have therefore made use of the old bulb idea in devising a new ear syringe, as seen in the accompanying illustration. The bulb is as large as can be conveniently used by the hand, and contains between two and three ounces of fluid. It is firmly connected with a projecting nickel-plated tube and does not leak. A shield is attached to the tube,



near the bulb, as a protection to the operator and clothes of the patient. This can be unscrewed and removed, if desired. The projecting tube tapers down to a rounded and smoothed end, which is of the proper size for an ordinary meatus. An olive-pointed tip accompanies the syringe, which can be slipped (not screwed) on the end of the tube, if desired. The force of water with this syringe is as strong as should ever be used in an ear.

As only antiseptic or aseptic solutions should be used in an ear syringe, and as the foul piston is eliminated from this one, there is no reason why the interior of this instrument should not always be pure; if not, it can easily be purified by allowing a strong antiseptic solution to pass into and remain in the bulb, and in fact it could always be left soaking in such a solution, if desired. The bulbs can be easily replaced when worn out, if desired. I believe this syringe will be a safe and useful one to place in the hands of patients, when for any reason we desire them to use one at home.

The syringe has been manufactured for me by E. B. Meyrowitz, 92 State Street.

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EDITORIAL.

CANCER TREATED BY INJECTIONS OF ALCOHOL.

The *Chicago Medical Recorder* for May, 1898, contains an article on the treatment of cancer with injections of alcohol, by E. J. Kuh, in which he advocates Hasse's method of interstitial injection into the circumference of the tumor. The writer of the article had already reported (*Medical Record*, April 17, 1897) a case of carcinoma of the naso-pharynx, in which he resorted first to excision in July, 1896. Within a month of the operation the post-nasal space was again filled with a regeneration of the growth. In September interstitial injections into the tumor were begun with the unfiltered erysipelas prodigious toxins. After twenty injections they were discontinued because the growth was increasing. In October alcoholic injections

were commenced, following the method of C. Schwalbe and O. Hasse. At first three minims, and later thirty minims of absolute alcohol were injected.

The author of the paper omitted to mention how often these treatments were given. After the seventh injection the tumor began to decrease, and but little remained after the eleventh injection. In February, four and one-half months after the alcoholic injections were begun, no sign of a growth was found.

These injections are very painful, but the results obtained in various tumors justify their further trial. During the injections of alcohol the essayist administered two ounces of potassium iodide, but he does not believe that this remedy influenced the progress of the disease toward a cure, since his examinations established the undoubted carcinomatous character of the growth.

In his later article the case reported about a year ago is again cited and the statement is made that "the patient in question has never had a return of the growth. Since the course of treatment he has had a number of attacks of acute adenitis in the region of the angle of the jaw, accompanied with a temperature of over 101°," etc.

It is evident that the author of the paper believes the naso-pharyngeal carcinoma to be cured, whatever the condition of the lymphatics may be. One of these enlarged glands he found recently "to have grown to about twice or thrice its original size. It is movable, and although merely suspicious, shall be treated with injections of alcohol."

He describes, also, a case of cancer of the breast, to which we will refer, since the same principles are involved as in carcinoma of the nose and throat. It was in a woman of sixty-three years. Alcoholic injections were made into the tumor, but not into its circumference. However, it continued to grow, and was excised, but the patient died; how long after the operation was not stated. The writer blamed the faulty method for his failure—not having followed Hasse's directions. Another case was a woman of sixty-two years with a large epithelioma of the left zygomatic region of the face, of two years duration. The submaxillary gland, as large as a hickory nut and on the same side, presented an ulcerating surface, having a syphilitic base. Potassium iodide was administered. Alcohol (thirty and forty dilutions) was injected into the circumference of the tumor without benefit. Hasse states that he has had no success from these injections in facial epithelioma.

Still another instance was a woman of fifty years, with cancer of the right breast, which was promptly amputated. No alcohol was

used in this tumor. After the operation sloughing of the wound occurred, and the supra-clavicular glands were infected and enlarged, but became reduced after alcoholic injections.

Over twenty-five years ago malignant tumors were subjected to this treatment by Schwalbe on the theory that if alcohol would produce contraction and atrophy of tissues, as occur in the cirrhotic liver of the inebriate, it would have a similar effect on a neoplasm, into the parynchyma of which it might be injected. Hasse says: "Alcohol favors cicatrization in all growths like struma, angioma, cysts, lymphatic-gland tumors, sarcoma, carcinoma," etc.

The object to be attained is to close the avenues for the supply of nutrition to the neoplasm, a veritable blockade, to starve the malignant growth to a state of atrophy. This is accomplished through the constriction of the lymphatics and blood vessels, both afferent and efferent, which results from the injection into the circumference, not into the parenchyma, of the tumor. It is evident that by choking these blood vessels, not only do we prevent the supply of nutrition to the growth, but also prevent the passage of infectious material from the growth to the surrounding tissues. Therefore, it is the zone of new connective tissue, the circumference of the tumor, into which the interstitial injections of alcohol should be made.

Out of eighteen cases of carcinoma of the breast, Hasse reported fifteen cures, and after twenty years no recurrence of the disease had taken place. A connective-tissue capsule had formed around each growth. Vulliet obtained similar results in uterine cancer.

J. W. Young reduced the size of various growths in the same manner, but, "if too much alcohol were injected at one time, sloughing of the growth and general intoxication of the subject followed." He could inject ten to twenty minims into one side of the tumor, then as much in another place, etc., this being continued till every part of the growth had become infiltrated by alcohol.

Charles E. Sajous (*The Monthly Cyclopædia of Practical Medicine and Universal Medical Journal*, January 1898) states that "as an agent, capable of causing contraction of a malignant neoplasm, alcohol is unequaled by any drug."

Hasse injected a mixture of thirty parts of absolute alcohol to seventy parts of water (distilled?) twice a week around the tumor as well as into the infiltrated glands, using from a few minims up to twenty Pravaz syringfuls. One can avoid injecting into a blood vessel by separating the syringe from the cannula after its insertion into the tissues. If no blood appears through the cannula, the syringe is replaced in connection with the cannula and the injection is made.

If blood flows from the cannula after a moment, it is withdrawn and inserted elsewhere.

Thomas Hubbard injected caustic potash into a squamous epithelioma of the velum palati by means of a curved platinum needle. "Injections were repeated wherever proliferating epithelial growths were seen. Cicatrization was rapid as well as the general improvement. The case remained cured after two years." (Bishop, Diseases of the Ear, Nose and Throat, page 402, 1897.)

Hence, it will be seen that injections, not only of alcohol, but of any material that will reduce the malignant neoplasm to a state of atrophy, hold out apparent promise for the relief or cure of this loathsome disease, which snuffs out the life of the greatest statesman with as little mercy as it shows the peasant in his poverty.

BISHOP.

BIBLIOGRAPHY AND ABSTRACTS.

We have been told by many of our well-wishers that the one weak department of THE LARYNGOSCOPE was in the matter of abstracts and reviews of current oto-laryngologic literature. To remedy this deficiency we have enlisted the interests of our entire editorial staff, and in this issue the first results of our efforts in this direction are submitted to our readers.

It is our purpose to furnish an abstract of every original article devoted to oto-laryngology published in the medical journal press of 1898. As we begin this department with the July issue there will, perhaps, be a preponderance of abstract material in the next few numbers.

As soon as our system is in thorough working order we will be able to furnish our readers with critical reviews and accurate abstracts of the entire field of oto-laryngology. Special attention will be given this department to make it one of the prime features of THE LARYNGOSCOPE.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Chancre of the Nasal Septum—EVANS—*Medicine*, May, 1898.

An ulcer had existed upon the nasal septum of the patient about four weeks when he applied for treatment. The character of the ulcer, the enlargement of the deep lymphatic glands of the neck, and the appearance of the skin lesions at the proper time established the diagnosis of chancre. The patient probably inoculated himself by picking the nose with his nail. EWING. (BISHOP.)

Fractures of the Nasal Bones—FREDERICK C. COBB—*Jour. Am. Med. Assn.*, March 12, 1898.

In the treatment of fractures of the nasal bones the writer prefers, instead of intra-nasal tubes and splints, an external support, held in position with a sort of headband device provided with a pressure pad which can be adjusted by a set screw. In case of depression, in addition to lateral dislocation, he reduces by internal pressure under ether, and follows with a packing applied high up in the nostril. Two cases are illustrated to show the application and results.

PYNCHON. (BISHOP.)

Caseous Rhinitis due to a Shoe Button in the Right Nasal Fossa—MOLINIE—*Marseille Med.*, February, 1898.

After referring to the pathology of caseous rhinitis in general, Dr. Molinie reports a case of this kind, the patient being a girl of nine years. Large quantities of fetid caseous matter accumulated in the nasal fossa. When the foreign body was removed there was no trace of ulceration or exaggerated secretion in the nasal mucosa.

The author concludes that a foreign body alone is not sufficient to cause caseous rhinitis, and that this condition is due to a secondary alteration of the collected secretion, which has undergone fermentation from its prolonged stay in the nasal fossa.

SCHEPPEGRELL.

Nasal Polypi: their Diagnosis and Radical Treatment—G. HUNTER MACKENZIE—*The Lancet*, February 5, 1898.

The presence of a mucous polypus in the posterior nares is sometimes overlooked if the following method is not adopted. The patient is instructed to close the opposite nostril, and firmly blow down the affected one; the polypus will then be distinctly observed to advance and recede with respiration.

The clinical characters are described. In treatment the forceps are condemned, and the cold snare, galvano-cautery point, and curette are recommended.

Hemorrhage as a concomitant of mucous polypus of the nose is of bad significance with one exception. The exception is what is known as "bleeding polypus of the nose," a variety which usually affects women, and curiously enough is almost invariably located in the left nostril. It is of the nature of an angioma, and is attached to the anterior part of the septum.

Hemorrhage in a mucous polypus almost invariably indicates a high degree of malignancy, and is one of the earliest and most persistent symptoms. The naked-eye appearances in the early stages in such cases may be very similar to ordinary mucous polypi, or more commonly the growths may be mottled and bloodstained. A characteristic feature of the hemorrhage is the ease with which it may be induced, as, for instance, by simple and gentle probing.

ST. CLAIR THOMSON.

A Case of Cacosmia—LACARRET—*Ann. de la Policlin. de Toulouse*, January, 1898.

Dr. Lacoarret states that cacosmia is only a symptom; it may develop upon purely subjective phenomena, or it may result from empyema of the sinus, suppurative nasal affection, diseases of the mouth, tonsils, etc. The author reports a somewhat curious case of cacosmia. The patient observed, as also those around her, a disagreeable odor arising from the nostrils at intervals. A probe applied to the mucous membrane, which was hypertrophied, became impregnated with the peculiar odor which emanated from the patient. No affection of the nose, sinus, larynx or of the trachea explained the cacosmia. The author attributed it to a peculiar secretion from the mucous membrane, the patient being cured by systematic massage of the mucous membrane.

SCHEPPEGRELL.

Importance of Nasal Conditions in Conjunctivitis—ROBERT N. KEELY—*Am. Med. Assn.*, 1897.

Dr. Robert N. Keely says in a paper presented at the annual meeting of the American Medical Association, 1897, that the important cause-and-effect relation between the nasal and ocular mucous membrane in conjunctivitis, having been raised by the oculist, has been satisfactorily settled by the nasal surgeon, with his advanced knowledge of the diseases of the nose and their surgical and therapeutical treatment. He reported the following cases, to show the effect upon the diseased conjunctiva produced by treatment of the nose:

Case No. 1.—A man, aged thirty-six years, had a violent inflammation in the left eye, with discharge from the left nostril. The eye was swollen shut and the mucous surface of the lid was covered with a false membrane, which was easily stripped off. The patient had had traumatic deviation of the septum, for which he had been

operated upon two years previously, resulting in considerable breathing space, but an ulcerated surface had persisted since. The discharge from the nostril, which was thick and tenaceous, excoriated the lip. A false membrane covered the entire nasal chamber, and even extended to the pharynx. This membrane was examined microscopically, but only streptococci and staphylococci were found. The nostrils were cleansed every two hours with an antiseptic saline solution, the ulcerated surface touched with tolzol and sesqui chloride of iron, six per cent, and the eye washed with a boric acid solution. In twenty-four hours the trouble disappeared.

Case No. 2.—A girl, sixteen years of age, was troubled with stoppage of the nose on the left side from taking cold, accompanied by a flow of tears from the left eye. Removal of a portion of the left turbinated bone, together with the thickened tissue over it, relieved the difficulty.

EWING. (BISHOP.)

Rhino-Pharyngo-Laryngo-Scleroma—SCHOTZ, Berlin—*Med. Bulletin*, Vol. xx, No. 5.

A patient twenty-one years of age, suffering from the above disease, was presented before the Berlin Laryngological Society. Symptoms of cough, insufficient respiration, and fetid discharge from the nose were present. The posterior walls of the pharynx and larynx were covered with dry secretion and the cords were reddened and thickened. In the naso-pharynx were cicatricial bands near the orifice of the Eustachian tubes. A falciform stricture constricted the upper part of the trachea. There was no evidence of syphilis. Upon the ala of the nose was a tumor the size of a bean. Another growth, about as large as a nut, was situated in the posterior nares. These growths were removed, and a nodule was seen immediately above the bifurcation of the trachea.

The microscope showed that the epithelium of the trachea was transformed into a flat and stratified membrane. Cells of Mickulicz and encapsulated bacteria, characteristic of scleroma were also found. Iodide of potash had no effect.

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

Mycosis of the Pharynx. (*N. Y. Med. Journ.*, March 5, 1898.)

C. A. W. Prevost.

The disease is characterized by the appearance of small, white patches on the tonsils, the base of the tongue, the epiglottis, and sometimes the back wall of the pharynx; these patches have the form of mushrooms, of dodder, or of nail heads. The *Leptothrix buccalis* is frequently found in the membrane. According to the author, the *vidium albicans* and the *ospergillus fumigatus* is also present in these patches. Some observers have seen this disease most

frequently in women and children and among people of the higher classes. This affection is not directly transmissible, and is not contagious. When one of the plaques are removed, it very rapidly reappears. This feature is distinctly characteristic. After cleansing with hot gargles and a one per cent solution of resorcin, the patches should be removed by means of forceps, and applications of iodized chloride of zinc, according to the following formula, should be applied:

R—Zinc chloride melted in plates	675 grains.
Water	375 "
Potassium iodide	1050 "
Iodine	63 "

Gargles with resorcin or chlorate of potassium may be used.

LEDERMAN.

Ulceration of the Pharynx in Hereditary Syphilis—T. K. HAMILTON—*Australasian Med. Gaz.*, Vol. xvii, No. 4, April, 1898.

A girl aged thirteen years, had suffered with sore throat eighteen months, and recent suppuration of right lachrymal sac. There was deep ulceration of whole soft palate, with old scars and commencing adhesions, ulceration of septum and nasal discharge; no scars about the face; eyes, ears and teeth healthy. No family history of syphilis. Iodide of potassium was given internally and sublimated calomel applied to throat and nose daily. The ulceration of the throat healed rapidly, but contraction has resulted so that only a very small opening now exists into the naso-pharyngeal cavity. Hamilton gives in detail the grounds for his diagnosis of hereditary syphilis.

EATON.

Certain Conditions of the Tonsils which Limit the Usefulness of the Tonsillotome—A. A. BLISS.—*Jour. Am. Med. Assn.*, March 12, 1898.

The tonsils lie at a point where in embryonic life a very complex development is in progress, hence variations in growth, and arrested or a symmetrical development are commonly met with in the naso-facial region. In this way we meet with great variations in the description of the normal tonsil. The tonsil should not project much if any beyond the level of the pillars, and should not be attached thereto. When enlarged, the tonsils interfere with respiration and phonation, and may readily become infected by micro-organisms, which produce an inflammatory process. An enlarged tonsil may lie between the pillars much as an eye does between its lids and while hypertrophied may appear to be small in size. Such tonsils, even when not prone to become acutely inflamed, maintain a chronic condition of pharyngeal and laryngeal irritation. The marginal portions of such tonsils, where attached to the pillars, are the points of greatest pathologic importance, and yet, owing to the physical conformation of the parts, are not removable by ordinary tonsillotomy. Unless the excision is done thoroughly, the end sought is not attained. In place of the tonsillotome the writer prefers to dissect the tonsil out from its bed by use of a traction forceps and suitable angle scissors.

PYNCHON. (BISHOP.)

A Syphilitic Gumma Originating and Isolated In the Tonsil—AUDREY AND IVERSENG—*Archiv. Med. de Toulouse*, Feb., 1898.

Drs. Audrey and Iverseng report a case in which the patient first presented certain gastric disturbances, with fever and vomiting. Later, pain developed and remained localized in the right tonsil, phonation became difficult and deglutition almost impossible. The general condition was poor, and there were enlarged glands in the sub-maxillary region on both sides. The right tonsil projected so that it was in contact with the uvula and of a dark red color. There was loss of substance near the center.

It was first thought to be tuberculous, and a slight application with the thermo-cautery was made. Mercurial treatment, however, resulted in rapid improvement, the local lesion soon disappearing. It was found impossible in the histologic examination to differentiate between tuberculosis and syphilis, but a bacteriologic examination remained negative for tuberculosis.

SCHEPPEGRELL.

The "Versatility of Adenoid Vegetations"—ALEX. FRANCIS—*Australasian Med. Gazette*, January 20, 1898.

Dr. Francis, in this striking contribution to the literature of adenoids, applies the term versatility as expressive of his belief that "no single affection in the whole domain of medicine and surgery has so far-reaching and general effect on the public health as these innocent little over-growths." In justification of this assertion, he mentions some of the affections which he has personally found dependent on this condition. He considers that at least 80 per cent of all cases of deafness due to adenoids, and in every case of deafness he has seen which has been attributed to scarlet fever, measles or diphtheria, he has found adenoids or their remains, and believes it reasonable to suppose that it is only in cases where adenoids exist, that these diseases have such direful effects upon the ears.

While he does not infer that all colds, broncho-pneumonia and bronchitis are due to adenoids, he asserts with assurance that they are responsible for the vast majority of those cases which present an unusual susceptibility to catarrhal affections.

Of especial interest is his report of four cases of severe *petit mal*, entirely and promptly cured in children by removal of adenoids. One boy had 30 seizures in 24 hours, he lost consciousness during the attacks and had bitten his tongue. The passing of the finger into the naso-pharynx disclosed the vegetations, and at the same time produced the worst fit he had been known to experience. In three weeks after the removal of the growths (which immediately lessened the attacks), the fits ceased permanently.

Dr. Francis' experience also leads him to believe that many cases of infantile convulsions also result from adenoids, and advises further investigation in this direction. He quotes, moreover, frequent and well authenticated cures of nocturnal enuresis after removal of adenoids, and has invariably succeeded in curing such cases in the same manner along with J. N. Mackenzie and Lennox Brown.

A case of severe asthma in a child was also cured by him by operation on adenoids.

In conclusion he sounds a note of warning as to when an operation is necessary. While it is hard to estimate the relative frequency of adenoids among children, he reckons it, instead of one to ten, to be so frequent that only about one in ten children has *not* some adenoid thickening at the vault of the naso-pharynx. Nevertheless, he holds that comparatively few need operative interference, and believes it not only unnecessary, but unjustifiable, to operate in cases where there are no symptoms as regards the ears or the general health. No good object is then to be gained, and nothing is so likely to bring the operation into disrepute.

EATON.

A Cause for Adenoids—M. C. O'TOOLE—*Journ. Am. Med. Assn.*, March 5, 1898.

Gonorrhœal infection of the mother at the time of the birth of child is suggested as a cause for adenoid vegetations in the naso-pharynx. The writer cites the case of a family in which three children were operated upon for these growths, while the fourth was found with a normal naso-pharynx.

A leucorrhœal discharge had existed during the time of the births of the elder children, but had been cured before the last one was born. The same writer gives as his opinion that middle-ear suppuration in infants, also enlarged lymphatic glands, are due to the same cause.

EWING. (BISHOP.)

Tonsil and Adenoid Operations Under Anæsthesia by Nitrous Oxide, and Nitrous Oxide and Oxygen; A Preliminary Report

—W. E. CASSELBERRY, and F. MAYE—*Jour. Am. Med. Assn.*, March 5, 1898.

Nitrous oxide has been long recognized as being the safest anæsthetic known and can be used with the patient in the upright position. By the addition of five per cent of oxygen the available anæsthetic operating time is lengthened and the safety in the use of the anæsthetic is increased.

PYNCHON. (BISHOP).

III. ACCESSORY SINUSES.

The Etiology and Treatment of Suppurative Disease of the Frontal Sinuses—W. MILLIGAN—*The Lancet*, Feb. 19, 1898.

In this paper the anatomical relation of the parts is first dealt with, special reference being made to the importance of the fronto-ethmoidal cells both scientifically and clinically. The occurrence of the occasional continuation of the infundibular tract into the opening of the maxillary antrum is pointed out, and its importance is emphasized. Acute catarrhal and acute suppurative frontal sinusitis is considered in some detail, and various methods of treat-

ment are described. The etiology of latent empyema of the sinus is next considered and the difficulty of its accurate diagnosis pointed out. Its frequent co-existence with suppurative ethmoditis and the relation of this to subsequent treatment is emphasized. Operative treatment and non-operative treatment is then discussed. Regarding the non-operative treatment, antiseptic lotions, syringing by means of a specially constructed canula *per vias naturales*, pinning down redundant mucous membrane by means of an escharotic, the use of antistreptococcic serum, and the employment of oxygen gas may be tried.

Regarding operative treatment, anterior turbinectomy (middle turbinated body) and various methods of external operation are described. A median incision is advocated, and the importance of securing free and efficient fronto-nasal drainage is strongly insisted upon. The various methods of dealing with the mucosa lining the sinus are considered, and complete curettement advised.

Of fifteen cases operated upon nine of the patients were males, six were females. In thirteen cases the sinusitis was unilateral, in two cases bilateral. In five cases the right sinus was affected, in twelve cases the left. In all the cases, with the exception of one (a sub-acute case), other accessory sinuses were similarly involved, and a statistical review of the sinuses implicated is appended.

ST. CLAIR THOMSON.

A Case of Persistent Purulent Discharge in Empyema of the Maxillary Sinus—LACOARRET—*Ann. de la Polyclin. de Toulouse*, Nos. 9 and 10, 1897.

Dr. Lacoarret reports two cases of persistent discharge following the alveolar opening of the maxillary sinus. In the first case the suppuration was kept up by a purulent sinus in the nasal fossa near the natural opening of the cavity.

In the second case a suppurating and fistulous pocket existed in the artificial opening made in the alveolar process. The suppuration from the maxillary sinus ceased as soon as the external opening disappeared. From these cases Dr. Lacoarret advises a free opening for the cure of chronic empyema of the maxillary sinus.

SCHEPPEGRELL.

Acute Inflammation of the Maxillary Sinus—WADSWORTH WARREN—*The Medical Age*, February 25, 1898.

Acute involvement of the antrum of Highmore deserves mention in connection with hypertrophic rhinitis, its frequency helping to cause it. It is a distinct pathological condition and not of rare occurrence. There is an anatomical reason why the maxillary sinus is more frequently diseased than the other accessory sinuses; drainage being better from the latter. The above mentioned disease may be recognized by a unilateral discharge, influenced by the position of the head of the patient. It is accompanied by some obstruction of the ostium maxillare and is relieved when this obstruction is removed.

EWING. (BISHOP.)

IV. LARYNX AND TRACHEA.

Hysterical Aphonia—SANGER BROWN—*Am. Med. Surg. Bulletin*, Vol. xii, No. 4.

Two distinct types of this affection are recognized. One in which the aphonia accompanies hysteria, with other pronounced symptoms, and the other variety in which the aphonia appears suddenly, with or without an exciting cause. The treatment which accomplishes good results usually owes its success to the influence of suggestion, though faradism, applied both externally and internally, is very servicable.

The Oliver method consists in pinching the posterior part of the arytenoid cartilages between the thumb and index finger (thus producing an approximation of the vocal cords), and at the same time vigorously shaking the larynx and calling upon the patient to make an attempt to phonate, assuring him positively of his ability to talk.

LEDERMAN.

Chronic Laryngitis, Cases and Results—JOHN F. WOODWARD—*Gailard's Medical Journal*, April, 1898.

The author of the paper says that, in his opinion, the ordinary text-book causes for chronic laryngitis, viz., phthisis, tuberculosis, tobacco and alcohol, have little to do with its causation. On the contrary, the condition of the upper air passages, the nose, the naso-pharynx and pharynx have all to do with it. He cites a number of cases to show that relief may be had by curing the lesions in these localities. The writer also shows that graver difficulties arise out of the chronic laryngitis which itself dates back to these earlier lesions, and supports his position by quoting excellent authorities such as Rault, Sajous and Mackenzie.

EWING. (BISHOP.)

Notes of Two Cases of Foreign Bodies in the Air Passages—H.

SWIFT—*Australasian Med. Gaz.*, Vol. xvii, No. 4, April, 1898.

A child, two years old, was suddenly seized with a violent fit of coughing. There was considerable dyspnœa, with recession at the epigastrium and a barking, hollow cough. Less air was heard entering right than left lung. On the following day there was no change, but then fever and more labored breathing set in, hardly any air entering upper part of right lung. Tracheotomy was done and the sides of the wound held open by silk retractors while the trachea was explored by a long probe, but this set up much coughing. No foreign body being found, a tube was inserted. On the fifth day, during an attack of coughing, there was suddenly acute dyspnœa, and the child fell back dead. A *post-mortem* disclosed a small screw just above the tracheotomy wound, but the dissection had probably dislodged it, as it could not have got into this position, Swift believes, owing to the tube. He thinks it had been fixed across the bifurcation of the bronchi.

Another case reported by Swift is that of a girl, aged three years

and a half, who, when perfectly well, suddenly began to breathe as though she had croup, with a good deal of dry cough. She said her little brother had put a piece of nutshell in her mouth and she had swallowed it.

The child looked distressed, breathing with crowing inspiration. On the third day there was marked stridor, inspiratory as well as expiratory.

Tracheotomy was done; no foreign body detected; larynx apparently empty; child was inverted and shaken; breathing was much relieved. Up to the seventeenth day patient did fairly well. On the twenty-third day the tube was taken out to be cleaned; there was much cough and suddenly a small piece of nutshell was expelled. Recovery. Swift describes the difficulties of such cases and the rules of treatment.

EATON.

Multiple Papilloma of Larynx—PRESTON M. HICKEY—*The Medical Age*, March 25, 1898.

The case described by the writer had a cauliflower-like growth, almost entirely filling the larynx. This was removed, piece-meal, by the Mackenzie tube forceps, till the cords were reached, when the laryngeal snare was resorted to. The remaining small pieces were caused to absorb by daily intubation. The patient recovered the use of his voice and is in good health. EWING. (BISHOP.)

Malignant Growth of the Larynx—ROBERT C. MILES—*Jour. Am. Med. Assn.*, March 5, 1898.

A growth was attached to the right vocal cord of a man thirty-six years of age. It extended across the anterior commissure, leaving small breathing space. The diagnosis of carcinoma was established by microscopical examination of a deep section, and an operation for its removal was performed by Dr. J. A. Bodine, preliminary tracheotomy having been made several days previously. An incision was made in the median line from the hyoid bone to the tracheotomy wound and the parts dissected on either side from the cricoid and thyroid cartilages. Chloroform narcosis was then continued through the tracheotomy tube. The trachea was cut through at its junction with the cricoid, and pulled outward and downward, then the larynx was lifted upward and dissected from the œsophagus and constrictor muscles, the crico-arytenoidean folds and the epiglottis. The œsophageal and epiglottic surfaces were stitched firmly together with cat-gut, and the external wound closed. Patient made gradual though not uncomplicated recovery and regained the power of speech.

EWING. (BISHOP.)

A Case of Primary Tuberculosis of the Larynx—TRIFILETTI—*Archiv Ital. Laryngol.*, January, 1898.

The case reported by Dr. Trifiletti is of special interest on account of the difficulty of diagnosis. The lesion in the larynx was so marked that it was difficult to diagnose between tuberculosis and

syphilis. The hereditary antecedents, the absence of pulmonary signs and of bacilli in the sputum, however, caused a diagnosis of syphilitic laryngitis to be made. Iodide of potash was prescribed and a slight improvement resulted. This, however, continued but for a short time, when all the symptoms became aggravated.

The possibility of a combination of tuberculosis and syphilis was then thought of. In the meanwhile a histologic examination of the lesion showed, without doubt, the existence of tuberculosis. The application of curettement and lactic acid was then made, which resulted in considerable improvement. The lungs were at no time affected.

SCHEPPEGRELL.

A Case of Primary Tuberculosis of the Larynx—F. W. BULLEN—

Medicine, April 18, 1898.

This case is interesting because primary tuberculosis of the larynx is a matter of doubt in the minds of some specialists. When admitted to the hospital, the patient, a boy of fourteen years, who had never had good health, was suffering from sore throat and dyspnœa, which was soon followed by dysphagia, all of which symptoms increased rapidly. Intubation was done, but relief did not follow. Then tracheotomy was performed, which relieved the dyspnœa, but the patient died from exhaustion. Autopsy showed primary hypertrophic tuberculosis of the larynx with ulceration of pharynx, larynx and trachea, acute broncho-pneumonia (tubercular), miliary tuberculosis of the liver and a number of other pathological lesions in other organs of the body. EWING. (BISHOP.)

Curettage in Laryngeal Tuberculosis—J. W. GLEITSMANN—*Am.*

Med. Surg. Bulletin, Vol. xii, No. 4.

This well-known authority states that surgical treatment is gaining more adherents. Good results can be expected in the primary form of the disease, without marked pulmonary complications, and in the incipient stage of pulmonary disease, where there is little fever and no hectic symptoms. In cases where curettage could not be carried out, submucous injections of lactic acid have given the author satisfactory results.

LEDERMAN.

Case of Spasmodic Dyspnœa—J. E. S. BARNETT—*The Lancet*,

April 30, 1898.

The patient was aged three and a half months, and had suffered from obstructed respiration since soon after birth. Tracheotomy was performed, but the child died cyanosed three weeks afterwards. At the *post-mortem* it was found that the thymus gland was enlarged. It is suggested that this irritated the recurrent laryngeal nerves, setting up spasm, and that this was relieved by the tracheotomy; but the gland still growing caused direct and fatal pressure on the trachea. There was neither ulceration of the trachea nor papilloma of the larynx.

ST. CLAIR THOMSON.

V. EAR.

Fracture of the Cartilages of the External Ear—L. S. SOMERS—*N. Y. Med. Jour.*, January 22, 1898.

This lesion occurred in a female weaver, forty-two years old, who was struck on the left auricle by a large shuttle flying loose from a loom. At the time of the accident she was stunned for a short time, but not rendered unconscious. Intense sharp pain was felt about the injured side of the head, which disappeared in a few hours. A week after the accident she was seen by the author. A slight superficial contusion was noticed on the posterior middle portion of the auricle. Palpation elicited distinct crepitation, and the cartilage was found to be fractured transversely, about a quarter of an inch above a line drawn through the exterior auditory meatus. A strong light held behind the auricle plainly demonstrated the line of fracture, as anterior inspection. Partial deafness and tinnitus resulted from the traumatism. No pain was experienced at the time of the examination. In two weeks time the fracture had healed and the line of separation was marked by a ridge of newly formed cartilage. Nature was allowed to heal the disturbed cartilage.

LEDERMAN.

Auricular Vertigo, due to the Presence of a Foreign Body which had Remained Thirty Months in the Auricular Canal—CERF—*Bull. Med.*, February 6, 1898.

Dr. Cerf reports the case of a child of eight years who had difficulty in walking and running, and who had several severe falls without apparent cause. These accidents increased so that the child would no longer walk alone, as it fell when not supported. In addition to the vertigo there also developed a short dry cough. An examination of the ear showed it to be filled with a large quantity of wax, inclosing three grains of sand weighing about fifty-seven milligrammes. The removal of this was followed by gradual disappearance of both the cough and vertigo.

SCHEPPEGRELL.

Natural Gas and Eustachian Inflammation—J. J. KYLE—*Jour. Am. Med. Assn.*, March 19, 1898.

The writer regards natural gas as being a potent factor in the causation of both nasal and tubal catarrh. Those gases containing the largest per cent of sulphuretted hydrogen are the most harmful. The inhalation of air, contaminated with natural gas, causes the nasal membrane to become dry and cracked, with adhering bloody exudates.

PYNCHON. (BISHOP.)

What can Be accomplished by Treatment of the Eustachian Tube—G. M. MARSHALL—*Jour. Am. Med. Assn.*, Mar. 19, 1898.

The paper deals principally with chronic stenosis of the tube, and the effects thereby produced, causing the equilibrium of atmospheric pressure upon either side of the drum-head to be disturbed. Through intra-tympanic rarefaction venous congestion follows, with the usual subjective symptoms. Emphasis is given to the pathological import of nasal and naso-pharyngeal deform-

ities, causing nasal stenosis, which underlies the catarrh and stenosis of the tube, and which must first be corrected. Attention is then given to the tubal stenosis, and in its treatment he relies chiefly upon the use of bougies which are introduced, under strictly antiseptic precautions, and are generally smeared with a three per cent ointment of nitrate of silver in lanoline. The bougie is introduced twice weekly and allowed to remain in position in the tube for twenty or thirty minutes at each treatment.

PYNCHON. (BISHOP.)

Traumatic Rupture of the Tympanic Membrane—BRAISLIN—*Am.*

Med. Surg. Bulletin, Vol. xii, No. 9.

Among the subjective symptoms are pain, bleeding from the affected ear, impaired hearing, tinnitus, and the history of trauma. Consciousness is not usually disturbed; shock may sometimes be present. When the injury is limited to the membrane, the hearing power will be restored to a good degree. If suppuration is absent, little treatment is necessary. Pre-existing middle-ear disease predisposes the membrane to traumatic perforations. Severe tinnitus may be a result of labyrinthine concussion.

LEDERMAN.

The Operative Treatment of Chronic Suppuration of the Middle Ear—E. B. GLEASON—*Med. Bulletin*, Vol. xx, No. 5.

In cases of prolonged suppuration, in which the usual antiseptic treatment is unsuccessful, and where large perforation of the membrane exists, the author removes the floor of the attic (the scute, Leidy) by means of a strong curette suggested by himself; good results were obtained in three cases. He believes in the radical operations (Stacke) in prolonged suppuration.

LEDERMAN.

Acute Myringitis—R. W. SEISS—*Jour. Am. Med. Assn.*, March 18, 1898.

Acute myringitis is the cause of most slight earaches, and may be caused by irritating fluids, cold water or traumatic injury. It is most often secondary to tubal or middle ear disease, or else to disease of the external auditory canal. Beginning as an active hyperæmia with serous infiltration, it may, without proper treatment, progress to a condition of desquamation, and, in ears which have been previously damaged by chronic disease, as sclerosis, cicatrices, dense impacted cerumenous plugs, etc., may develop a hæmorrhagic complication; suppuration may also ensue, particularly if the general health is impaired. Pain, tinnitus and deafness are present in varying degrees. Perforation, and drum-head thickening, with permanent impairment of hearing may result therefrom. The writer has found warm irrigations of great benefit when the syringe is properly used, and may be followed by a slight dusting with calendulated boric acid or dermatol. Tympanic inflation, in the writer's hands, has not proven beneficial. Suitable treatment is advised for coexisting nasal or pharyngeal congestion. Subsequent thickening is to be suitably treated by massage, etc.

PYNCHON. (BISHOP.)

The Surgical Treatment of Acute Inflammations of the Middle Ear—E. B. DENCH—*Jour. Am. Med. Assn.*, March 19, 1898.

An inflammation of the atrium or lower part of the tympanum, which is known as an acute catarrhal inflammation, is characterized by an effusion of fluid. Owing to the small amount of connective tissue within this space, a primarily suppurative inflammation is practically impossible, though suppuration may occur secondarily after rupture of the membrana tympani. On the other hand, an inflammation in the tympanic vault invariably leads to connective-tissue necrosis and the formation of pus, and constitutes a true cellulitis. The gravity of purulent inflammation within this space is due to its proximity to the mastoid antrum, of which it really forms a continuation, and to the middle cranial fossa, from which it is separated by only a thin lamella of bone.

While an acute catarrhal inflammation may be aborted by prompt antiphlogistic treatment or paracentesis, operative treatment is imperative even in the incipency of an inflammation of the tympanic vault, and consists in the making of, first a horizontal and then a vertical, incision, so as to form a triangular flap, beginning just behind the short process of the malleus, all instruments used being perfectly sterilized. The best after-treatment consists in the frequent use of warm antiseptic douches. PYXCHON. (BISHOP.)

Treatment of Suppurative Otitis Media—HENRY GRADLE—*Jour. Am. Med. Assn.*, January 1, 1898.

In discussing suppuration of the middle ear Gradle remarked that the gauze drainage treatment was the speediest known in acute inflammation. He adds: "Any treatment which does not remove the odor from the discharge will never lead to a cure of chronic suppurative otitis media, and, conversely, wherever the odor has been removed the tendency to recovery can be at once observed. A small number of cases may not entirely heal under the treatment which removes the odor, but this is a rare exception."

He begins by a free use of the syringe. "Thorough syringing alone cures many cases. I can say this on the basis of some cures accomplished by syringing, followed by the experimental use of various powders, like iodoform, which I since learned to be absolutely inert. All uncomplicated cases will heal under the use of boric acid lightly insufflated after thorough cleansing. This checks bacterial activity on the surface of the tissues. Insufflation through the Eustachian tube I formerly used as a routine measure, but I have failed to see the least delay from its omission. Irrigation through the Eustachian canal has not proved of any use in my hands." He employs a small silver tube, closed at the end, with a lateral eye, attached to a ten-centimeter piston syringe, to irrigate the tympanic cavity. He uses a solution of salicylic acid in alcohol and ether, (proportions not given) and follows this with carbolated glycerin, one to ten. Gradle agrees with advanced otologists generally, respecting operative measures when they are required. In some cases

of a profuse, tenacious, muco-purulent discharge, which probably came from the mastoid antrum, he secured good results from a twenty per cent solution of tannin and glycerin, retained in the ear for hours.

Robert Tilley prefers the method of syringing in these cases in preference to the dry treatment. He uses a solion of carbonate of sodium (strength not mentioned). In most cases he administers constitutional remedies in the form of iodide of iron and cod liver oil. Both gentlemen lay stress on the importance of naso-pharyngeal therapeutics in conjunction with the ear treatment.

Dr. Wheelock syringes most cases with the dioxide of hydrogen. He has recently substituted a 0.5 per cent solution of formalin for the H_2O_2 , with satisfactory results. BISHOP.

Intratympanic Surgery; Especially in Chronic Purulent Otitis

Media—C. H. BURNET—*Jour. Am. Med. Assn.*, March 19, 1898.

General anæsthesia with ether is required. Thirty operations upon twenty-nine patients are reported, in which the membrana tympani and one or more of the ossicles were removed through the external auditory canal. The patients ranged in age from six to forty-eight years, and were about equally divided as regards sex. In no case was the stapes removed. In one case the mastoid was opened. Total cessation of discharge occurred in fifteen cases, marked diminution in seven, and slight diminution in eight, though some of the cases are still under treatment with good prospects. The time in which these results were obtained varied from two weeks to a year and a half. In all cases the general health became improved. After operation the usual after treatments were administered. No case was made worse, even temporarily, by the operation, and in eighteen cases the hearing was improved. Excision in chronic purulency of the ear, by perfecting drainage from the attic and antrum, and facilitating antiseptics of these parts, is indicated as it tends to ward off mastoid caries, and its sequellæ, and should therefore precede any proposed mastoid operation for the cure of purulency. PYNCHON. (BISHOP.)

Acute and Chronic Caries and Necrosis of the Mastoid Process—

HOMER KNAPP—*Jour. Am. Med. Assn.*, March 19, 1898.

Mastoid necrosis, while one of the most dangerous of diseases, is generally amenable to suitable surgical treatment. Several cases are reported to illustrate the advisability of making a prompt and radical operation. Without operative treatment there is constant danger of the pathological process extending into the cranial cavity. PYNCHON. (BISHOP.)

Stacke's Operative Exposure of the Middle Ear and Its Recesses for the Cure of Chronic Otorrhœa—K. PISCHL—*Proced. Cal. State Med. Soc., Pacific Med. Jour.*, Vol. xli, No. 5, May, 1898.

Pischl quotes Stacke's summing up of the indications for his operations, and also demonstrated it by specimens. EATON.

VI. DIPHTHERIA, THYROID GLAND, OESOPHAGUS, ETC.

Nasal Symptoms in Myxœdema—A. H. CLEVELAND—*Annual Meeting Am. Med. Assn.*, 1897.

A case reported by A. H. Cleveland is of interest, because the treatment proved the diagnosis. The patient applied for relief for nasal symptoms following la grippe, which resembled hay fever, but persisted long after the frost came. The disease resisted ordinary local and constitutional measures. A boggy, waxy appearance of the turbinated bodies, with paleness of the entire mucous membrane of the nose, together with thickening and waxy paleness of the skin, dryness and brittleness of hair and nails, redness over cheek bones and nose, and patches of eczema, lead the doctor to prescribe thyroïdine, with immediate and permanent benefit.

EWING. (BISHOP.)

The Vitality of the Diphtheria Bacillus—ALEXANDER MACGREGOR—*Lancet*, March 12, 1898.

Report of the case of a boy, aged eight years, in which the Klebs-Loeffler bacilli were present in a virulent condition nearly six months after the attack of diphtheria. References are given to other publications treating of the length of time in which the diphtheria bacilli have been found in the throat after the clinical symptoms of the disease had disappeared.

ST. CLAIR THOMSON.

A Case of Faucial, Nasal and Aural Diphtheria—C. H. BURNETT—*Philadelphia Polyclinic*, Vol. vii, No. 4.

The patient was a young boy, three years old, who was brought to the hospital with a fractured femur and humerus and scalp wounds, having been struck by a locomotive. Thirteen days after his admission, the glands in his neck were found to be swollen and he complained of sore throat. No patches were discovered, but a culture gave a positive result: A thin purulent discharge from the nose and ears also showed the Klebs-Löffler bacillus later on. Instillations of formaldehyde (1 to 1,000 of a 40 per cent solution) were followed by a disappearance of the diphtheria bacilli. Antitoxin was also employed.

LEDERMAN.

Alkalized Serum as a Culture Medium for Bacterial Diagnosis of Diphtheria—L. COBBETT—*Lancet*, February 5, 1898.

Alkalized serum has this obvious advantage over ordinary serum as a solid culture medium, that it remains transparent when sterilized at a high temperature. The medium was first described by Prof. Lorrain Smith in 1894, and since that time it has been used in the pathological laboratory at Cambridge, and has been found very useful for the diagnosis of diphtheria, and for the cultivation of the Klebs-Loeffler bacillus.

Full particulars are given of the methods for preparing alkalized ox and horse serums.

ST. CLAIR THOMSON.

Heart Complications in Diphtheria—DR. CLEON M. HIBBARD—
Boston Med. and Surg. Journal, February 3, 1898.

From a study of eight hundred consecutive cases of diphtheria in the South Department of the Boston City Hospital, Dr. Cleon M. Hibbard submits the following conclusions:

1. A rapid pulse-rate in diphtheria is to be dreaded. Death usually results when it exceeds one hundred and fifty.
2. A slow pulse—sixty in young children—is a sign often of serious heart trouble.
3. Irregularities in the pulse occur in about ten per cent of the diphtheria cases, and are generally significant of cardiac complications.
4. A systolic murmur at the apex is heard in about one case in ten, and its prognostic value depends upon the nature of the cause.
5. A *bruit de galop* in diphtheria is a most fatal sign.
6. After four weeks, with no heart symptoms in diphtheria, there is little probability of subsequent cardiac trouble in the convalescence.
7. All diphtheria patients who have tachycardia, bradycardia, irregular or weak pulse, a systolic murmur at the apex, vomiting or any paralysis—especially palatal—should be kept quiet in bed.
8. The most important element in the treatment consists in the absolute rest in bed.
9. The vagus nerve in the fatal cases always had some evidence of degenerative changes. The weight of the heart was increased.
10. The cause of death is usually from cardiac thrombi, dilatation or paralysis, produced most probably by the toxin of the diphtheria bacillus.

SCHEPPEGRELL.

An Extraordinarily Acute Case of Graves' Disease—E. HARVEY
SUTCLIFF—*Lancet*, March 12, 1898.

In this case the disease ran an unusually rapid course, as the patient lived just three months after the symptoms first made themselves apparent. The most important and obstinate symptom was vomiting and distressing retching at even the sight of food.

ST. CLAIR THOMSON.

Parotitis from Obstruction of Stensen's Duct—R. HILL BROWN—
Lancet, April 16, 1898.

A woman consulted the author for inflammation of one parotid gland. She complained of a pricking sensation in the mouth, and examination revealed a small-pointed body projecting from Stensen's duct. When extracted, it proved to be a feather about an inch in length. Its removal was followed by a flow of pus and sero-purulent fluid from the duct, and the pain and swelling rapidly diminished.

ST. CLAIR THOMSON.

VII. NEW INSTRUMENTS AND THERAPY.

To Abort Acute Coryza—COURTADE—*Dunghison's C. et C. Record*,
Vol. xix, No. 4.

The hot nasal douche is considered the best method. Water must be at a temperature of 50°C. and slightly alkaline. The usual

Dover's powder, grains five, together with phenacetine, grains five, are given with a hot punch. For ten minutes a hot bath should be taken and then a repetition of the powder. LEDERMAN.

Some Points in the Treatment of So-Called Nasal Catarrh—S. E.

COOK—*Western Medical Review*, Vol. iii, No. 5, May, 1898.

Cook lays particular stress, in cases of both acute and chronic catarrh, of cleansing agents. He approves of the local use of cocaine in coryza, a procedure opposed by many. EATON.

Creosote in the Treatment of Ozæna—FERRERI—*Med. Bulletin of*

Med. et Surg., Vol. xx, No. 5.

In very stubborn cases, the pure drug is employed, as it is very irritating. In cases of medium severity equal parts of creosote and glycerine are applied. In milder instances, the following combination is often effective:

R.—Creosote	5 parts.
Alcohol (75 per cent).....	10 parts.
Glycerine.....	40 parts.

LEDERMAN.

For the Glossitis of Alcoholics—N. E. Med. Monthly, June, 1898.

Applications of the following solution should be made to all points of inflammation:

R.—Acid chromic.....	10 gr.
Aquæ dist.....	1 oz.

LEDERMAN.

For Inhalation in Catarrh of the Upper-Air Passages—KAFEMANN

—*N. E. Med. Monthly*, June, 1898.

The following combination has proven very effective in catarrhal conditions of the upper-air passages:

R.—Menthol	4.
Eucalyptol.....	2.5
Turpinol.....	2.
Ess. of pine.....	1.

M.

A few drops of the liquid are poured into a bottle, which is warmed over an alcohol flame. Balsamic vapors immediately fill the bottle and these the patient inhales through a tube.

LEDERMAN.

Hydrastis Canadensis as a Remedy in Cough—DR. SÄNGER,

Magdeburg—*N. Y. Med. Jour.*, Jan. 22, 1898.

In the fluid extract of this drug, in doses of twenty or thirty drops four times daily, the author has found a very good remedy in tuberculous subjects. He thinks the remedy is superior to all others for phthisical cough, as the muco-purulent expectoration is rapidly modified for the better. In cases of bronchorrhœa it has also proven itself of considerable value. LEDERMAN.

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No. 2.

ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

PAPILLOMA OF THE TONSIL.

BY MACLEOD YEARSLEY, F.R.C.S., LONDON, ENG.

Assistant Surgeon to the Royal Ear Hospital; Surgeon in Charge of the Department for
Diseases of the Throat, Nose and Ear, the Farringdon General Dispensary, London.

At recent meetings of the Laryngological Society of London, there have been shown several specimens of benign growths of the tonsil, mostly under the designation of "papilloma." The first two cases shown (see table, Cases 7 and 8) were productive of discussion, and Sir Felix Semon remarked that he had hitherto shared in the general belief that benign growths of the tonsil were practically non-existent. Having, myself, seen at least two cases of such benign growth, neither of which were true papillomata, I have collected as many instances as I could meet with, with a view to ascertaining the comparative frequency of such growths. The conclusions to which one is led are as follows: (1) That true papilloma of the tonsil is uncommon; (2) that other benign growths are comparatively frequent; (3) that the latter are often of inflammatory origin and connected with enlarged tonsils.

In the accompanying table will be found references to thirty-four cases. Of these twenty-one were examined, eight were not examined microscopically, and of the remainder (five) I can find no record of such an examination. Of those histologically examined four proved to be true papillomata (Nos. 7, 8, 9 and 12, Fig. 1); the remainder

were lymphadenomata, or fibromata (with slight variations in structure). Judging by comparison, with the naked eye appearances and history of these, of those not examined microscopically, one only is a true papilloma, the remainder coming under the somewhat loose term, "polypi." Although Case 32 was described by Syme as a "fibrous tumor," it does not appear to have been histologically examined, and is, therefore, not included with those whose pathology is proven. Case 33 had the naked-eye appearance of a papilloma, but had not been investigated at the time this paper was written.

Lejars (Cases 19 and 20) has written of these "tonsillar polypi," and described two cases of his own, together with several other cases

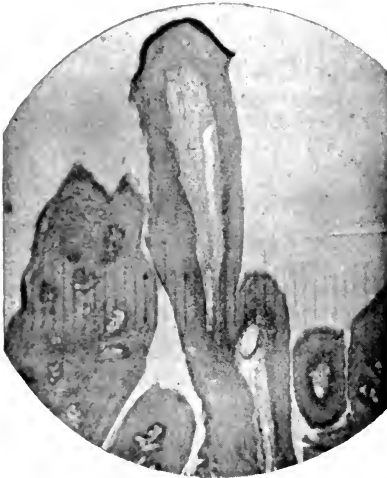


FIG. 1.—True Papilloma of the Tonsil.



FIG. 3.—Angio-fibroma of Tonsil.

recorded elsewhere. Excluding the rare polypoidal forms of cancer, he divides these polypi into (1) lympho-angiomatous (Case 20), and (2) fibro-angiomatous (Case 19). In the former the surface presents a stratified pavement epithelium, and often immediately beneath this is a fine reticulum analogous to that of a lymphatic gland. The chief mass of the tumor is made up of lymphoid cells. Irregular cavities occur, containing a granular contents, in which red and white blood cells can be distinguished. These polypi, Lejars suggests, arise much in the same way as do polypi in the solitary glands of the large intestine, in consequence of obstinate diarrhœa. The fibro-angiomatous variety also presents a stratified epithelium, and beneath this a series of papillæ, often infiltrated with round cells. The stroma is

formed of bundles of fibrous tissue, strewn with many round cells. Cavities may be present at times so numerous that the tissue presents a real cavernous structure. Some of these cavities contain blood, others a granular detritus, with blood cells. Myxomatous degeneration may occur in places. Lejars points out that the nasal and pharyngeal mucous membrane is pre-eminently the region for polypi—mucus in the nasal fossæ, fibro-myxomatous about the posterior nares and angiomatous in the buccal portion of the pharynx and in the region of the tonsil.

Although Lejars thus divides these growths into two classes, their structure is practically the same, namely, a stroma of lymphoid tissue with a varying amount of fibrous tissue, covered on the outside by several layers of epithelium. This structure corresponds with that of an hypertrophied tonsil, and the polypi are nothing more than portions of hypertrophy, which have grown beyond the general surface of the gland.

Probably these little growths are very much more common than at first sight appears, and if those who frequently perform tonsillotomy will examine all the tonsils they remove they will be surprised at the comparative frequency with which tiny polypi, growing from the follicles, can be found. Mr. Wagget remarked to me in a letter: "I have seen quite twenty such growths growing from the tonsillar crypts."

There is in the Museum of the Royal College of Surgeons a large tonsil, presented by Sir William Fergusson in 1865 (see table, Case 1). At first glance this gives one the impression of a large, coarse papilloma, but on closer inspection it will be at once seen that the papillæ are merely portions of the tonsillar tissue, divided by the bands which pass between and separate the follicles; they are, in other words, merely upgrowths of the follicle floors. Under the microscope they would probably show the structure described above. The specimen next to it (Case 2, Fig. 2), on the other hand, is that of an ordinary hypertrophied tonsil, which has springing from its surface a delicate fimbriated papilloma, attached by a thin pedicle about a quarter of an inch long and half an inch broad. This is probably a true papilloma. The two specimens, side by side, form an excellent example of the different growths. The cases described by Roberts (Case 6), Machell (Case 5) and one kindly communicated to me by Mr. Waggett (Case 34) are similar to the Fergusson specimen, and these growths might well be called by the term "pseudo-papilloma."

Further, the "polypus" always grows from one of two places—the

NO.	REFERENCE.	SEX & AGE.	MICROSCOPIC APPEARANCES.	HISTORY.	REMARKS.
1	R. C. S. Museum, No. 2281 (Sir Wm. Ferriusson, 1865).	M. 13	Not microscopied. Does not look like a true papilloma.	Present from infancy. Left tonsil.	
2	Ditto, No. 2282 (Francis Mason).	M. 9	Not microscopied. Has appearance of <i>true papilloma</i> .	No history.	See Fig. 2.
3	St. Bartholomew's Hosp. Museum, No. 1,807.	M. 40	"Resembles the tissue of the tonsils."	Right tonsil. Present eighteen months.	
4	Ditto, No. 1,807a.	M. 25	"A soft fibroma consisting entirely of connective tissue."	Ten years' history of sore throat.	
5	H. T. Machell, <i>New York Med. Journal</i> , Jan. 19, 1895.	F. 10	Lymphadenoid (Dr. Caven).	Both tonsils. History of "Acute sore throat," the tendency to which disappeared at four years old. Died of diphtheria, after forty-eight hours' illness, before tonsils could be removed.	
6	Roberts, <i>Archives of Otolaryngology</i> , XXV, No. 1, p. 55.	F. 18	Lymphoid tissue principally, and covered with squamous epithelium.	Left tonsil. Two years. Large dendritic mass extending half way across the fauces, occluding the pharyngeal orifice, and lying on root of tongue.	
7	Dr. W. Hill, <i>Proceedings of Laryngological Society of London</i> , Vol. V, p. 6.	F. 21	<i>True papilloma</i> .	Suffers from chronic pharyngitis.	
8	Dr. W. Hill, <i>Ibid.</i>	M. 22	<i>True papilloma</i> .	Suffers from chronic pharyngitis.	
9	Mr. Wyatt Wingrave, <i>Ibid.</i> , Vol. V, p. 27.	M. 40	<i>True papilloma</i> .	Left tonsil. Slight symptoms of irritation. Tonsils enlarged. History of several quinies.	See Fig. 1.
10	Mr. Wyatt Wingrave, <i>Ibid.</i> , and <i>Journal of Laryngology</i> , Vol. VIII, p. 44.	?	Fibro-vascular and small-cell tissue, covered with smooth stratified epithelium.	Right tonsil. Sore throat and history of quinies.	See Fig. 3.
11	Dr. E. Waggett, <i>Proceedings of Laryngological Society of London</i> , Vol. V, p. 22.	F. 30	Dense fibroma with large lymphatic spaces.	Growing from left supra tonsillar fossa.	
12	Dr. Paterson, <i>Ibid.</i> , p. 44.	M. 10	Squamous epithelium. <i>True papilloma</i> .	Enlarged tonsils. No symptoms.	
13	Dr. Jobson Horne, <i>Ibid.</i> , p. 6.	M. 17	?	Left tonsil. Both tonsils hypertrophied and indurated. History of sore throat extending over six months.	
14	Dr. Jobson Horne, <i>Ibid.</i>	F. 48	?	Right tonsil. Sore throats, fifteen months. Follicular tonsillitis.	See Fig. 8.
15	Mr. Macleod Yearsley, <i>Ibid.</i> , p. 7.	F. 45	Adenoid tissue covered with stratified epithelium.	Left tonsil. Existed four weeks. Followed attack of follicular tonsillitis.	See Figs. 4 and 7.
16	Mr. Macleod Yearsley, unpublished.	F. 31	Not microscopied.	Left tonsil. History of follicular tonsillitis.	

NO.	REFERENCE.	SEX.	AGE.	MICROSCOPIC APPEARANCES.	HISTORY.	REMARKS.
17	Mr. Macleod Yearsley, unpublished.	F.	16	Not microscopied.	Right tonsil. History of tonsillitis.	See Fig. 6.
18	Mr. Dake, unpublished.	F.		Not microscopied.	History of tonsillitis.	See Fig. 5.
19	Lejars, <i>Archives Gen. de Med.</i> , Dec., 1891.	M.	22	Fibro-angiomatous.	Left tonsil. Caused continued irritation.	
20	Lejars, <i>Ibid.</i>	F.	24	Lympho-angiomatous.	Left tonsil. Double polypus. History of sore throat and quinsies.	
21	Hermann of Lille (mentioned by Lejars).	F.	?	Not microscopied.		
22	Kuault (mentioned by Lejars).	F.	44	?	Left tonsil. Polypus described as "Issuing from a crypt." History of sore throats.	
23	Fruewald (<i>Wiener Medicin. Woch.</i> , 1879).	M.	43	"Characters of ordinary tonsil hypertrophy."	Right tonsil. History of frequent sore throat.	
24	Frelich, <i>Ueber Tonsillarpolypen und Geschwulste des Weichen Gaumens</i> , Diss., Göttingen, 1880.	M.	40	Lymphadenoma.	Right tonsil. Polyp-papillated like a cauliflower. Both tonsils hypertrophied.	
25	Lubinsky (<i>Monatschrift fuer Ohrenheilkunde</i> , No. 10, 1887.)			Lymphadenoma.	Left tonsil.	
26	Lannois (<i>Lyon Medical</i> , 1888, LIX, p. 326).	M.	25 to 30	Fibroma.		
27	Curling (<i>Lancet</i> , Feb. 1858, p. 57).	M.	51	Fibroma.	Left tonsil. History of sore throat.	
28	Julia (<i>Gaz. des Hop.</i> , 1863, No. 46).					
29	Bourdon (<i>Bul. Soc. Anat.</i> , June, 1872).					
30	Nepveu (<i>Massa. Bul. Soc. de Chirurgie</i> , 1885, N. S. XI, p. 927).			Fibro-myxoma.	History of sore throats.	
31	Rivière (<i>Annales des Maladies de l'oreille</i> , 1889).	M.	16	Fibroma.	Tubercular subject.	
32	Lyme (<i>Lancet</i> , Vol. I, 1856, p. 51).	M.	38	Described as "A fibrous tumor," but not apparently microscopied.		
33	Sharman (<i>Proceedings of Laryngological Society of London</i> , Vol. V, p. —).	M.	15	The growth had not been examined at the time this paper was finished.	Left tonsil. History of sore throats. Associated with a pedunculated papilloma of the left posterior pillar of the fauces.	
34	Waggett.	M.	10	Each nodule consists of lymphoid tissue containing follicles, and is covered in part by a sclerosed zone of lymph tissue with dilated lymph channels.	Both tonsils much enlarged, the surfaces have a papillated appearance and are covered with semi-pedunculated round masses, most of which grow from small cup-shaped cavities (follicles).	

supra-tonsillar fossa, or the floor of a follicle. The true papilloma grows from the surface of the tonsil, just as such growths occur on the soft palate or uvula. Figs. 5 (from Case 18—See author's case, *Medical Press and Circular*, March 3, 1897—a tonsil given me by my colleague, Mr. Richard Lake), 6 and 7 show this origin from a follicle very well. Fig. 8 (Case 14, from a sketch by my colleague, Dr. Jobson Horne) is an instance of origin from the supra-tonsillar fossa. In hypertrophied tonsils the floors of the follicles are convex, and it is easy to see how one of these floors may, growing in the direction of least resistance, shoot beyond the follicle and become a small poly-



FIG. 2.—Hypertrophied tonsil with fimbriated papilloma.

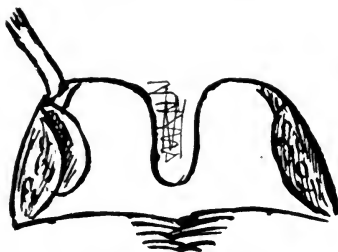


FIG. 8.—Showing origin of growth from Supra-tonsillar fossa.



FIG. 4.—Adenoid tissue covered with stratified epithelium.

loid excrescence. Its structure will naturally be that of the hypertrophied tonsil itself.

In a paper recently read by Wright, of Brooklyn, on papillary oedematous polypi, (*New York Medical Journal* November 13, 1897) he remarks "the tendency to papillary formations is seen not only in the epithelium covering fibrous tissue, but, as I have lately had occasion to observe, the lymphoid tissue of the faucial tonsil is occasionally thrown into the digitations covered by proliferated squamous epithelium, which gives to the surface a papillary vegetating appearance." Whether the tonsil shall assume a pseudo-papillomatous appearance, as in Cases I and 34, or be the seat of a single polypoid

growth, as in Cases 15, 18 and 17 (Figs. 5, 6 and 7) is, I take it, merely a question of irritation. In Case 34 the pedunculated mass distinctly originated from follicles.

The following are the histories of Cases 15, 16 and 17, and they may be taken as the general type of the history in such little polypi:

Case 15 (Fig. 7)—Female, æt. forty-five, had recently recovered from an attack of follicular tonsillitis. For four weeks she had noticed a small polypoid growth, a little larger than a grape stone, at the upper part of the left tonsil. It caused no symptom beyond a frequent desire to swallow. On examination, it was found to grow from the floor of a follicle, and a probe could be passed into the follicle all around its base. It was removed under cocaine and did not recur.



FIG. 5.



FIG. 6.



FIG. 7.

Showing origin of Papilloma from the follicle of the Tonsil.

Case 16—Female, æt. thirty-one. The subject of chronic hypertrophy of the tonsils. Has had frequent attacks of quinsy. Both tonsils were removed under gas. On examining them a tiny polypus about the size of a hemp seed was found growing from the floor of a follicle in the left tonsil.

Case 17 (Fig. 6)—Female, æt. sixteen. The subject of chronic hypertrophied tonsils and post-nasal adenoids. Has had several attacks of quinsy. On excising the right tonsil a small polypus was found growing from the floor of one of the upper follicles.

In conclusion I offer my thanks to Drs. Horne and Hill and to Messrs. Lake, Maggett and Wingrave for allowing me to use sketches or specimens, and to Dr. John Fallows for photographing Figs. 1, 3 and 4.

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FIBROMA OF THE NASO-PHARYNX, WITH REPORT OF CASE.

BY L. G. WOODSON, M.D., BIRMINGHAM, ALA.

The chief object of this paper is to present some practical conclusions, gained by personal experience, in the treatment of fibroma of the naso-pharynx. The disease is exceedingly rare and is confined almost exclusively to males from fifteen to twenty-five years of age. The primary seat of origin is from the periosteum covering the basilar process of the occipital bone. These tumors grow somewhat slowly, and, when allowed to pursue their natural course, attain enormous size, completely filling the naso-pharynx, encroaching on the soft palate and sending prolongations into the nasal cavities and accessory sinuses, causing great facial deformity and seriously impairing the general health by reason of the grave complications to which they give rise. There does not seem to be any special exciting cause to account for the development of these growths. The influence of age and sex is marked. The disposition to the disease rarely commences before puberty and ceases by the twenty-sixth year, reaching its maximum between fifteen and twenty. Of the fifty-eight cases collected by Dr. Lincoln, of New York, all occurred in males under twenty-five. As regards sex, Nélaton says he "does not know of a single authentic example of true naso-pharyngeal fibroma becoming developed in a female of any age, or in a male over thirty-five."

The prognosis by old methods of treatment was decidedly unfavorable. This was no doubt due to the enormous size attained by these growths before their presence was known, or even suspected, and to the serious preliminary operations practiced for gaining access to the naso-pharynx for their removal. By means of the rhinoscopic mirror, the naso-pharynx can now be thoroughly examined and these neoplasms detected in the early stage of their development. With the methods now in vogue, their removal can be accomplished with ease and facility through the natural passages, by the simpler surgical procedures, which are absolutely safe and comparatively easy of execution. In a series of twenty-nine cases, collected by Dr. Lincoln, in twenty-one of which a preliminary operation was performed, three patients died on the table, and a fourth within a few hours after the operation, and, in a fifth case, hemorrhage was so severe as to

seriously endanger the life of the patient. Of the eight cases operated on through the natural passages by the simpler methods, recovery followed in every instance. With these statistics before us, it is not surprising that the radical surgical procedures practiced until comparatively recent times have been abandoned in favor of the new and safer methods of our day, rendering the prognosis much more favorable. Whenever the tumor attains sufficient size to give rise to distressing symptoms and to impair the general health, surgical interference is imperatively demanded.

The question as to the best method by which to remove these growths is often a difficult one to determine. At present there are four: first, electrolysis; second, injections of escharotics; third, galvano-cautery loop; fourth, the cold-wire *écraseur*. With electrolysis I have had no experience. In the hands of some operators, it seems to have given brilliant results; in others, it has proven a complete failure. From the conflicting reports as to its value, we must admit that it is by no means certain in its action. The comparative merits of the remaining measures will be considered in the following report of case:

G. M., aged eighteen, consulted me in April, 1894, with the following history: For two years he had suffered more or less from a thick, tenacious, muco-purulent discharge from the nose, which he attributed to catarrh, and for which he had been treated without benefit. He had also been troubled with stenosis of the nasal cavities, which had gradually increased until complete obstruction resulted. There had also been repeated attacks of epistaxis, the hemorrhages frequently lasting for several hours, which had reduced the patient to a dangerously anemic condition. For six months before consulting me he had been troubled with a very annoying cough with distressing dyspnoea. The sense of smell was completely abolished, and deglutition was performed with considerable difficulty. The general appearance of the patient indicated extreme debility. On examination of the throat, a large tumor was seen, completely filling the naso-pharynx and pressing the soft palate downward and forward, and projecting for a half-inch or more into the oro-pharynx. The growth was smooth, round and of a decided reddish color, covered with a thick purulent secretion. After removing the secretion, a large number of blood vessels could be seen coursing over its surface. Digital examination showed the tumor to be hard, dense and very slightly movable. It was attached by a broad base to the upper part of the vault of the pharynx. After removing a large quantity of thick muco-purulent secretion from the nasal cavities, and

exsanguinating the mucous membrane with a solution of cocaine, by means of anterior rhinoscopy, the tumor could be distinctly seen blocking the posterior nares. Recognizing the nature of the growth, I decided to remove it with the galvano-cautery loop, which was operated through the mouth. After drawing the loop closely around its base, the tumor was slowly burned through, and was followed by the most profuse and persistent hemorrhage, which came near proving fatal before it could be arrested. The prostration which resulted from the great loss of blood necessitated the patient's confinement in bed for about ten days. After removal, the tumor was measured and found to be $2\frac{1}{2}$ inches in length by $1\frac{3}{4}$ inches in breadth at its base. Its posterior surface was rough and slightly ulcerated, and I have no doubt that these small ulcerations had been the source of the hemorrhages, which had been such a serious complicating feature of the disease. The symptoms having disappeared, and the patient's general health being greatly improved, he was permitted to return home about two weeks after the operation. I did not see him again until the 20th of June, 1895, when he again presented himself for treatment. He said, after he returned home his condition continued to improve for a period of six or eight months, at the end of which time there was a gradual return of all symptoms given in his first history. Examination revealed the fact that the tumor had recurred, and not only was as large as when removed the previous year, but was complicated by a prolongation, which completely filled the posterior part of the left nasal cavity, which had produced great facial deformity. On account of the urgency of the symptoms, an immediate operation for his relief was decided upon. In order to prevent hemorrhage, which came so near proving fatal in the first operation, I determined to use the cold-wire *écraseur*. At the suggestion of Dr. Bosworth, of New York, I had an instrument made on the order of the Jarvis snare, though much larger and stronger than the one in general use. Number five piano wire was used and the operation done through the right nostril. Owing to the large size of the tumor and the rigidity of the wire, I found it impossible to pass the loop through the nose. In order to overcome this difficulty, I made use of Bellocq's sound, armed with a strong cord, which was passed into the larynx through the right nasal cavity and one end of the string was drawn out of the mouth and tied tightly to the ends of the wire loop, which was protected with a small piece of sponge. By drawing on the nasal end of the cord, the wire was carried through the nose, and the loop, guided by forceps, was made to encircle the base of the growth. The wire was then threaded through the *écraseur*

and the loop gradually tightened by giving a turn to the screw every five minutes. The time consumed in the separation of the neoplasm was five and one-half hours. There were only a few drops of blood lost during the operation, and I did not find it necessary to use cocaine at any stage of the process except for placing the wire in position, the pain being so insignificant as to produce little or no discomfort. A few days later I made several unsuccessful attempts to remove with the snare the nasal portion of the tumor, but, on account of adhesions to adjacent parts, I was unable to engage the growth, each attempt being followed by more or less hemorrhage. I finally resorted to injections of chromic acid, repeated every week, eight or ten being required to destroy it. The growth recurred for the third time, and an operation for its removal was repeated in May, 1896. The cold-wire snare was used. There was no recurrence of the nasal portion of the tumor. This operation, like the preceding one, was unattended by pain or hemorrhage. I did not see the patient again until October, 1897, when examination showed that the growth had again recurred. The patient's general health at this time was fairly good, and as the tumor had not reached sufficient size to materially interfere with respiration, and believing that the patient had reached the age when arrest of development usually takes place, I advised against operation, especially as he thought the growth was decidedly smaller than it was several months before. I saw the patient again on the 26th day of December, and found that the tumor was rapidly undergoing spontaneous absorption, and I am confident that in a short time every evidence of the disease will have disappeared.

From the history of this case I have been able to deduce the following conclusions:

First—There are few, if any, cases of naso-pharyngeal fibromata that cannot be successfully extirpated or destroyed by modern measures without endangering the life of the patient.

Second—The mode of operation has little or no influence in preventing recurrence.

Third—Treatment should only be resorted to when demanded for the relief of urgent symptoms, because the tendency to recurrence is marked during the period of active development; after adolescence there is not only arrest of development, but frequently spontaneous absorption takes place, when total extirpation of the growth is rarely followed by recurrence.

Fourth—The great danger to be feared from operation is hemorrhage.

Fifth—The galvano-cautery loop offers an exceedingly rapid method for removal of these growths, but this advantage is more than counterbalanced by its failure to absolutely prevent serious hemorrhage.

Sixth—The cold-wire *écraseur* is the instrument *par excellence* for this operation. It is bloodless, painless and easy of manipulation.

Seventh—Injections of escharotics are objectionable because the density of the growth is so great that a long time is required for the separation of the slough, which not only gives rise to a very disgusting and offensive odor, but is a slow and tedious process.

FOREIGN BODY IN THE NOSTRIL FOR FIVE YEARS.

BY J. A. PRATT, M.D., AURORA, ILL.

In February, 1896, a little girl, eight years of age, was sent to my office to be treated for what had been diagnosed as catarrh.

An acrid and fetid discharge was coming from the right nostril. The upper lip under the right nostril was excoriated, showing in spots cicatricial tissue, giving the appearance of an abrasion of long standing.

After thoroughly cleansing the parts, the left nostril was found to be normal in appearance, but in the right, between the middle turbinate and the septum, was a mass that resembled dead bone, both to the sight and to the touch. Slight pressure showed it to be movable, and on passing a strabismus hook back of the object, by gentle traction I removed what was undoubtedly nearly one-half of a plum or similar seed.

The mother gave a history that the nose had been discharging for five years. A short time previous to the commencing of the discharge the mother was preserving plums, and the baby while eating the raw fruit complained of something being up the nose, but as nothing was seen the incident was soon forgotten, until recalled by the removal of the seed.

The child recovered promptly.

The curious part of this case was the length of time the perishable seed was retained in the nose. The ease with which it was removed showed it would have soon been blown out.

SCAR TISSUE IN THE PHARYNX FOLLOWING SCARLATINA AND COMPLICATING ADENOID VEGETATIONS.

CARLE LEE FELT, B.A., M.D.

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About a year ago Frank S., eleven years of age, presented himself with the following symptoms: Frontal headache, open mouth, sharp features, apraxia, slow, lisping speech, with a complete absence of the resonant quality, and an almost constant dribbling of saliva.

The right nasal chamber was normal, the left lower turbinate was turgescient with some hypertrophy. The pharyngeal picture was unique. The posterior pillars were free above, but about one cm. below their juncture with the uvula both were drawn toward the median line and converted into scar tissue, which was continuous with scar tissue on the pharynx proper between the pillars. The left pillar was drawn nearer the median line than the right.

The naso-pharynx was full of adenoid vegetations which were thoroughly curetted.

The symptoms gradually subsided except the lisp. Six months later the left nasal chamber became again obstructed and vegetation reappeared in the naso-pharynx. The symptoms have all returned but greatly modified.

He finds great relief from a simple albolene spray, used twice daily and followed by two or three drops of a one per cent solution of menthol in albolene from an ordinary eye-dropper in each nostril. This will be his treatment until a second scraping of the naso-pharynx is done.

An attempt to remove the scar tissue would be futile.

Bishop in his recent work ("Diseases of the Ear, Nose and Throat," p. 391,) reports a somewhat similar case. It is the only case I have seen reported or mentioned. This fact, and because my own case is the only one I have met in private and hospital work, lead me to infer that the condition is a rare one.

ABSCESSSES IN THE NECK CONSEQUENT ON DISEASES OF THE EAR.

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TRANSLATED BY

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Since Prof. De Rossi communicated to the Academy of Rome his original work dealing with the intracranial path taken by the pus in cases of caries of the temporal bone with formation of abscesses in the neck, many other observers have written upon abscess formations in the neck in cases of acute and chronic ear disease. Broco, De Quirvain and Hamon Du Facquay, in recent writings upon the subject, fail to make mention of the works of the Roman clinician to whom priority must be given in the subject of which we are treating. While the French authors who we have mentioned do not tell us anything new as to the pathogenesis of the disease, which would explain the appearance of those abscesses which form in the lateral region of the neck, De Rossi, however, even before Bezold had described that form of mastoiditis known by his name, described the path taken by the pus in cases of purulent collections in the tympanic cavity, mastoid antrum, and the mastoid cells proper, accompanied with the formation of abscesses outside of the region of the ear. De Rossi, while investigating the reasons why the purulent collection in the mastoid tended to borrough in a certain direction, brought forward the fact that the pus on making its exit does not always take the path of least resistance. In fact, the pus in empyema of the tympanic cavity and mastoid process, rarely finds its way into the middle cerebral fossa through the superior wall which is formed by the tegmen tympani, which is, as all know, the thinnest part of the bony structure of the ear.

The most common paths taken by the pus coming from the tympanic cavity and the mastoid antrum are: through the posterior canal wall, through the external wall of the mastoid, through the superior wall of the mastoid which is continuous with the tegmen tympani, and through the posterior wall of the mastoid which lodges the sigmoid groove in which is found the transverse sinus. Notwith-

standing the thickness of the places above enumerated, nevertheless it is through these regions where ruptures are mostly found. Indeed, in a number of sections made by De Rossi it was shown that the pus in many cases took the path of most resistance, that is, it traversed through the thickest part of the bony wall, although some parts of the bony wall were thin and even cribiform.

In the majority of cases of chronic purulent processes of the attic and antrum the external mastoid wall is affected with a condensing osteitis, which renders the bony wall quite thick and compact. This thickness sometimes reaches to 2 or 3 cm. Notwithstanding, De Rossi has observed cases in which the pus has made its way through such a thickened wall, instead of going through the internal, which was less than 1 mm. in thickness, or through the superior wall which contains numerous natural cribiform openings belonging to the tegmen. The openings just mentioned afforded free communication between the cranial cavity, the mastoid antrum and tympanic cavity, thus giving easy access, by continuity of structure, between the mucosa of the middle ear and the dura.

Therefore, as De Rossi has sustained, abscesses found some distance away from the purulent focus, must not be looked upon as coming from the least resistant part of the mastoid pyramid, but they must rather be looked upon as being propagated through the agency of pyogenic microorganisms which travel through the connective tissue, lymphatic and venous systems, and possibly through the nervous structures. In fact, it would be impossible to explain the formation of large abscesses near the external wall of the mastoid affected with condensing osteitis without taking into consideration the strip of connective tissue which traverses the petra-squamous suture and through which the infective microorganisms find their way out.

While we as yet have but an insufficient knowledge of the lymphatic system of the ear, it is difficult to explain the influence which this system has in the transmission of microorganisms in abscesses formed at a distance. On the other hand, every one knows of the intimate relations existing between the venous system of the temporal bone and the lateral sinus, the external veins and the venous network of the adjacent bones. According to De Rossi the pyogenic germs are propagated more readily through the bony wall of the mastoid, although the latter offers but very little resistance. One may, therefore, thus explain the pathogenesis, not only of the abscesses found around the external surface of the mastoid, but also those invading the cranial cavity between the dura and tegmen, and

even those situated in the cerebral substance itself. So too may we explain the deep phlegmous found in the posterior and lateral regions of the neck which form the subject of this article.

Avoleo and Chuicini in describing the intracranial complications of purulent processes of the middle ear and especially the encephalic abscesses, have described the methods of anatomical research followed in the Roman school. Thus, in the researches reported by Avoleo it was shown that the sinuses surrounding the petrous portion of the temporal bone act as a true lacus around this bone, thereby serving to equalibrate the cerebral action, and may be a means of infection in cases where there is a septic focus in the middle ear or mastoid antrum. Chuicini in speaking of the osseous and vascular relations of the temporal bone with the cranial cavity calls attention to the rich network of intraosseous veinlets which is present in the temporal bone, and which empty directly into the fine sinuses surrounding it. This fact not only favors the development of osteomyelitis of the temporal bone, but constitutes also a great danger of infection of the sinuses mentioned, and thus favor the development of a remote infection. Again, in chronic infections of the attic and of the mastoid antrum, thrombi may form at any point of the vascular network of the temporal bone, which may be the exciting cause of caries of more or less extent. Moreover, the thrombi may obstruct the normal vascular current and thus favor the transportation of pyogenic microorganisms to extra aural regions. In fact, our anatomical knowledge of the bones of the ear gives us a sufficient and clear explanation of the suppurative lesions which are found near to or remote from it, provided we exclude the propagation as taking place through the bony structure. It is only in this way that one can explain the existence of those cerebral abscesses which are separated by a large zone of healthy tissue from the primary otic morbid focus, as well as the carious processes of the occipital bone of the facial bones and of the neck.

The anatomical facts which have been mentioned and which the Roman school has made use of to explain the formation of neck abscesses consequent on and concomitant with otic processes, shows us that we must recognize and take into consideration the venous network of the base of the cranium and especially of the petrous process in connection with the large trunks of the neck, rather than the resistance of the bony structures. If in explaining the formation of intra-cranial abscesses and those surrounding the temporal bone, we bestow our attention only to the more or less marked resistance or compactness of the bony apparatus, or to the purulent collection

in children, whose auricular structure presents more openings than in the adult, then abscesses of the neck as well as the intra-cranial ones ought to occur at least with the same frequency. As we have observed in our clinic, this frequency does not occur. Moreover, it will be remembered that in infancy abscesses do not occur with more frequency, because of the natural drainage existing between the limiting portion of the temporo-auricular regions, while in adults, due to the conformation of the bony structures, the free drainage of the pus coming from the ear cannot be the same. Therefore, based upon the anatomical facts brought to light by the Roman school, one can not but believe that these facts are the true explanation of the way which the pus takes coming from the ear in the formation of remote abscesses.

Before mentioning the paths taken by the pus proceeding from the temporal bone to the lateral and posterior aspects of the neck, to more or less profundity and sometimes infiltrating the base of the cranium, it may not be out of place to mention the principle and more common classification of those abscesses of otic origin.

Hamon Fougeray divides abscesses of the neck into two classes. In the first class he mentions those abscesses originating directly from a middle-ear suppuration, or from inflammation of the tympanic cavity and of the mastoid and propagated to the neck through the lymphatics. In a second class he comprises the indirect abscesses produced by the pus breaking through the mastoid apophysis, or by way of the venous current.

Broca divides these abscesses into three classes. First, abscesses having an indirect connection with an otic focus. Second, abscesses formed through a purulent collection in the jugular vein. Third, abscesses of ganglionic origin. He believes that septic thrombosis of the jugular vein is responsible for the production of these abscesses in a great many instances.

Quervaise considers that purulent retentions in the tympanic cavity or in the mastoid cells are the principal exciting causes of those abscesses, which he divides according to their course and symptoms.

1. Sub-mastoid abscesses; those not going beyond the insertion of the sterno-cleido-mastoid muscle.

2. Lateral abscesses; those which develop between the sterno-cleido-mastoid and the anterior border of the trapezins.

3. Retro and sub-maxillary and retro-pharyngeal abscesses.

4. Abscesses of the uncha and of the back.

The abscesses of the neck due to ear inflammation, according to the Roman classification, are divided as follows:

1. Superficial, when they infiltrate the subcutaneous connective tissue.
2. Interstitial, when they infiltrate the intermuscular spaces.
3. Very deep, or *para-scheletrici*.

But in many cases superficial abscesses are nothing but the manifestation of deeper lesions. Sometimes abscesses of the ear break through the bone and periostium and invade the subcutaneous connective tissue. Again, in children, caries of the walls of the external auditory canal may give rise to abscesses which, breaking through the fissure of Santorini, invade the parotid region, thus simulating an infiltration or a tumor of that gland.

In adults, acute purulent processes of the middle ear, as well as acute exacerbation of chronic processes, may produce lymphangitis, thrombo-embolic phlebitis, and thus give rise to the formation of a superficial abscess of the neck, by following the vascular system from the tympanic cavity to the external vascular network, especially through squamo-mastoid fissure. These are the cases in which the so-called total demolition of the mastoid is not a rational method of treatment, as the bone and periosteum are absolutely healthy, and a cure can be obtained by the performance of a Wilde's incision alone.

The interstitial and *para-scheletric* abscesses may communicate with the purulent collection in the ear, through the squamo-mastoid or the occipito-mastoid sutures, or through the Glaserian fissure (Bezold's form). Moreover, as De Rossi has demonstrated, the pus can make an intra-cranial path by perforating the wall of the sigmoid sinus, and then flow through the fascio nerveo osseolore formed by the carotid, internal jugular and pneumogastric. Again, according to De Rossi, periphlebitis of the mastoid vein (*vena emissaria mastoidea*) plays an important part in the production of abscesses in the posterior region of the neck. This vein has a tortuous and more or less extended course in the bony walls, which, being affected with caries and invaded by pyogenic colonies, causes inflammatory reaction in the tissues surrounding it. The walls of the vein are found thickened and at times occluded. This condition, which may be advantageous to prevent the penetration of pyogenic and septic elements into the transverse sinus, favors the diffusion of the suppurative process into the deeper parts of the neck, especially around the occiput and into the muscular interstitial spaces of the uncha.

Among the many cases of abscesses of the neck, observed in the clinic of Rome, I have selected six very important ones. They are especially notable on account of the intensity of the phlegmonous process in the deeper cervical parts, and because of the course taken by the pus in breaking out from the ear and from the accessory cavities.

Case I.—Large abscess in the supraclavicular region, following a very acute purulent otitis media, without perforation of the tympanic membrane. Caries of the mastoid and of the sigmoid groove. Recovery under usual treatment.

N. N., aged forty-three. Has been suffering with rheumatic attacks. No specific diseases. On December 7, 1897, he was attacked with acute pain in the left ear. The pain extended towards the nucha and forehead, and there was reduction of the hearing power. One month later he noticed considerable swelling behind the auricle and in the neck, and presented himself at the clinic.

The swelling occupied the left temporal and cervical regions, the skin was reddened and the tissues infiltrated, and pain was marked on pressure. Being that the pain persisted and was accompanied by elevation of temperature, the mastoid was operated upon. The external surface of the bone was found compact, but we removed with the chisel about one centimetre of bony substance. The mastoid cavity was full of pus and covered with granulation tissue. These being removed with the spoon pus was noticed coming from the deep wall, and the discharge increased by making pressure on the swelling at the base of the neck.

Disinfection, drainage and dressing. The condition of the patient improved.

Several days later a fluctuating tumor, as large as an egg, was found in the left supraclavicular region. It was opened, and after discharging a large quantity of pus the cavity was disinfected and dressed. A communication between the supraclavicular abscess and the opening made in the mastoid could be demonstrated. Recovery was prompt and uninterrupted.

Case II.—Deep abscess of the neck following acute purulent otitis media. Mastoid periostitis. Operation. Recovery.

N. N., sixty years of age. No syphilis. No taints of any kind. The patient was suddenly seized with pain in the left ear, which obliged him to stop his work and go to bed. After a few hours the pain subsided, but was followed by a purulent sanguinous discharge from the ear. No treatment was employed until the patient noticed a swelling in the neck, which was increasing rapidly, which caused him to seek advice at the clinic.

Œdema of the mastoid region, with slight pain on pressure; tumefaction along the sterno-cleido-mastoid muscle; inclination of the head toward the affected side; fœtid suppuration of the ear; elevation of temperature. Boric irrigation and silver nitrate applications seemed to do good, but shortly the patient was attacked with a chill and fever. The swelling in the neck became phlegmonous, and the

pain intensified. An incision was made along the posterior border of the sterno-cleido-mastoid, which gave issue to a large collection of pus. By inserting the finger down to the bottom of the abscess cavity it was possible to feel the transverse processes of the cervical vertebrae. After procuring free drainage and using antiseptic irrigation the discharges from the neck and ear were checked, and the patient left the clinic perfectly cured.

Case III. Right otitis media purulenta. Diffuse dermatitis of the external canal. Abscess of the uncha. Injections of Fowler's solution. Recovery.

N. N., aged thirty-five years. The patient was suddenly seized with an acute suppurative process of the right middle ear, which, in a few days, extended to the external canal and occluding it. The parotid was likewise involved with an intense swelling. After incising the canal a great quantity of pus was evacuated, but the wound showing no disposition to heal, it was enlarged. Two months later the patient noticed a pasty swelling of the mastoid region, which was followed by the spontaneous opening of three fistulae. The adoption of a palliative treatment and the use of moist heat made no impression upon the disease. As the swelling was extending to the posterior aspect of the neck the patient presented himself at the clinic on April 2, 1895.

After gaining access to the mastoid antrum and opening the mastoid cells and having made a counter opening at the lateral and posterior parts of the neck, the mastoid wound healed slowly. The tumefaction in the neck persisted for some time. Then sterilized injections of Fowler's solution were made, employing $\frac{1}{4}$ cc. at each sitting at intervals of three days. The injections were made deeply into the infiltrated tissues. The patient was cured after using sixty injections.

Case IV.—Deep abscess of the neck following caries of the mastoid.

N. N., aged forty years. No diathesis. In March, 1896, he suddenly experienced violent otalgia, followed by elevation of temperature, without any discharge of pus from the canal. After the pain ceased the patient noticed some tenderness in the mastoid apophysis, which extended to the side of the head. At this time a swelling appeared behind the auricle, and the patient applied a leech over this region. The swelling was incised, following by curettement of the mastoid. This operative procedure was not sufficient to put a stop to the patient's pain, and the wound would not heal. During the following October a large swelling of the left temporo-mastoid

region developed. This swelling extended downwards to the posterior aspect of the neck and reached as far as the third cervical vertebræ. It was at this time that the patient presented himself at the clinic for the first time.

Right behind the auricle there is an irregular cicatrix, having raised borders, and presenting several fistulous openings. By exerting pressure on the neck pus is seen to issue from the fistulous openings just mentioned.

On November 18 the following operation was performed: An incision was made, extending from the second cervical vertebræ upwards to the temporo-zygomatic line, and a musculo-cutaneous flap was dissected, horseshoe shaped, until the periosteum of the occipital was encountered. The flap involved the whole cicatrix. After cleansing the wound thoroughly, pus appeared to still come from the region of the occipital foramen. All granulation tissue was removed. The wound was packed, and we proceeded to open the antrum. The antrum contained granulation tissue, which was removed, and the cavity was packed with iodoform gauze. The next day the dressing was removed and it was noticed that the infiltration of the tissue still persisted, and as oozing of pus was taking place from the wound it became necessary to make a counter opening in the right side of the uncha, at the level of the second cervical vertebræ. For this purpose a director was made use of. The opening was made under the entire muscular layer of the uncha. After securing free drainage a compressive dressing was applied. After several dressings, and the wound improving much in appearance, a new swelling came on, involving the posterior occipital sulcus in the median line. A new counter opening was made and drained.

Case V.—Left otitis media purulenta. Abscess of neck and pharynx.

N. N., twenty years of age, presented himself at the clinic, complaining of great pain in and profuse purulent discharge from the left ear. As the purulent discharge showed no tendency to diminish and was accompanied with slight infiltration in the mastoid region and pain radiating over the half of the head, it was thought advisable to open the antrum. The entire external part of the mastoid apophysis was opened, the wound disinfected and then sutured. Shortly afterward there came an elevation of temperature, persistent pain in the neck, together with the appearance of a large swelling in its lateral region. These symptoms indicated retention of pus, and the wound was therefore reopened, and a discrete quantity of pus was thus evacuated. On making strong pressure on the swelling in

the neck, about half a glassful of pus was seen to issue from the left nostril. A counter puncture was made at the level of the spinous processes of the third and fourth cervical vertebræ, a drainage tube applied, and the whole was antiseptically treated. The patient made a good recovery.

Case VI.—Chronic purulent otitis media. Caries of the temporal bone, erosion of the floor of the tympanic cavity. Hernia of the jugular bulb into the tympanic cavity. Abscess of the neck along the sterno-cleido-mastoid.

N. N. This patient had been treated one year ago in the clinic for a swelling of the zygomatic region. On making pressure on this swelling, pus would issue from the canal. The canal itself was occupied by a large vegetation, which was covered with eroded epidermis. After opening the mastoid it was seen that the vegetation referred to was probably the uncovered sinus which appeared to be as large as a large venous trunk, covered externally with epidermis.

An opening was also made in front of the ear to facilitate the free exit of the pus. The patient recovered. Some time afterward, however, a fistulous tract appeared in the region of the mastoid cicatrix from which pus oozed. At this time the patient was again admitted for treatment at the clinic. There was a fistulous tract present involving the upper part of the cicatrix. The fistulous tract was disposed in nearly a horizontal direction and extended forward in front of the ear. The fundus of the fistula presented to the probe a roughened, bony surface.

On otoscopic examination the mucosa of the posterior wall of the tympanic cavity was seen to be covered with granulations.

Two weeks later the fistulous sinus was curetted and rendered free of all granulations. This procedure gave rise to considerable bleeding from the sinus and from the ear, necessitating the application of a tampon of gauze soaked in hydrogen peroxide. The same night the patient complained of great pain in the ear and was restless. Two days later the writer noticed an œdema of the left lower lid. A little more than a week later a swelling right below the mastoid was observed. The swelling could be reduced by compressing it, but at the same time a free flow of pus would come from the tympanic cavity through the external canal. After incising the swelling referred to, the opening thus made was packed with gauze soaked in oxygenated water.

The six cases which have been briefly related showed us the surgical procedures which should be instituted in dealing with superficial and deep abscesses of the neck which are in direct relation with

acute and chronic purulent affections of the ear. We have already stated that in some cases of superficial phlegmons of the neck, dependent upon acute middle-ear inflammation and of the mastoid, and also in acute exacerbation of chronic suppurative processes of the tympanic cavity which are propagated to the mastoid process, it is not necessary to make a free incision into the tissues of the neck, nor to evacuate the mastoid, because in such cases the lesion in the temporal bone is not a carious process. Thus in Case II a cure was obtained without operating on the bone. Nevertheless, the surgeon must take into account all the circumstances of a given case, so as to avoid having to open the bone as well as to prevent the necessity of having to perform a secondary operation. We should at first only practice the opening of the cervical abscess, when the pus is pent up in the osseous interstices of the tympanum, the parotid and sub-maxillary regions, or the pus proceeding from the antrum gains entrance into the supra, and sub-hyoid regions through the squamo-mastoid suture. Moreover, in these cases of superficial cervical abscesses of otic origin it is well to make the opening so that the incision follows the anterior border of the sterno-cleido-mastoid muscle. Care should be taken before making the incision, however, to exert firm pressure with the finger at the point of greatest swelling so as to ascertain if the pus communicates with the external canal or if the patient feels the pus coming down into the pharynx through the Eustachian tube. In these cases one can be sure that there is a large collection of pus in the mastoid, and the adoption of mild surgical measures would not be advisable. On the other hand, when the acute suppurative process of the middle ear and of the pneumatic cells has subsided as evidenced by the otoscopic examination as well as by percussion of the apophysis, it would be useless to open the mastoid after having opened the cervical abscess.

In dealing with deep abscesses of the jugulo-carotid region, or with interstitial abscesses occupying the intermuscular spaces of the nucha or para-skeletal abscesses, the point of election for incision will be at the posterior border of the sterno-cleido-mastoid muscle. The incision should be made at this point because the pus will thus be easily evacuated from purulent collection established beneath the trapezius or beneath the splenius capitis which is inserted into the posterior margin of the mastoid process into the mastoid portion of the temporal and into the external two-thirds of the superior curved line of the occipital. Again, this same incision will serve to evacuate pus more deeply situated, such as is found beneath the complexus muscle whose shorter insertion is attached to the posterior

border of the mastoid process. It is not always easy, due to the enormous amount of swelling present, to find with the probe from which part of the mastoid the pus has proceeded to invade the muscular interstices of the lateral and posterior aspects of the neck. As a general rule, after opening the cervical abscess, the antrum and mastoid cells should be opened. If the incision made to open the abscess has involved the tissues near the mastoid, then it should be coalesced with the mastoid incision. On the other hand, if the abscess incision has been made some distance lower than the mastoid process, then it will be advisable to make the mastoid incision along the posterior sulcus of the external ear—commencing above the insertion of the external ear to the side of the head, and ending at the mastoid apex. The incision should be made through the soft tissues with one stroke of the knife, reaching to the bone at once. Then with the periosteotome the periosteum is lifted until the whole mastoid is fully uncovered. Then the tissues of the cartilaginous meatus are loosened without lacerating them. At this point we are now ready to open the antrum by means of the chisel and mallet. If all the cells are broken down, making one large cavity, the whole cortex is demolished by means of De Rossi's osteotome. The operation employed will be governed according to the peculiarities presented by each individual case. Generally, however, the operation will be limited to the simple opening of the mastoid cavity, or it will be followed by the opening of the antrum according to the method of Stacke.

In dealing with deep intramuscular abscesses, and especially with the para-skeletal variety, the mere performance of an incision along the posterior border of the sterno-cleido-mastoid is not always satisfactory, no matter what its size may be. Often it is necessary to make a counter opening in the nucha, deepening the incision through the muscular fibres of the trapezius. Owing to the great resistance of the muscular layers of the nucha, the common drainage tubes are easily compressed; so it is necessary to employ tubes which are large and resistant, or pack the wound with iodoform gauze, as was done in Case No. IV.

Only those who have treated abscesses of the lateral and posterior regions of the neck, produced by affections of the ear, can have any idea of the great length of time required for the healing process. So long as the morbid process of the middle ear persists, and there is pus in the mastoid, and the carious portions of the temporal bone have not been eliminated, the healing of the wound, made with a surgical view, will be extremely difficult. Indeed, it has occurred

many times in our clinic that, while the treatment was so far advanced as to warrant the discharge of the patient as recovered, other incisions and counter openings in the lateral and posterior parts of the neck were required. At other times, as occurred in Case No. III, the deep cervical zones, and especially those of the nucha, remained infiltrated for some time, but with no collection of pus. In those cases the resolution of the morbid process was obtained by making parenchymatous injections of sterilized Fowler's solution (quarter of a gramme) at a few days interval. We have had the opportunity of treating some of these patients for three or four months. According to our experience they present in general a very profound depression of the organism. Hence the local treatment must be combined with an opportune reconstituent one, together with a diatetic regimen, which will be similar to that employed in some exhausting affections (tuberculosis).

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THROMBOSIS OF THE LATERAL SINUS, DEPENDENT UPON SUPPURATIVE OTITIS MEDIA, WITH REPORT OF CASES.

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Up to a comparatively recent period septic infection of the lateral sinus from a purulent inflammation of the middle ear was looked upon as a condition of the utmost gravity. Those cases which did not prove fatal suffered for many months from general systemic infection, presenting the typical picture of pyæmia. The first step toward the relief of the condition was the radical operation upon the mastoid, proposed by Schwartz. This procedure, in a large measure, prevented septic involvement of the intracranial blood channels. With the perfection of aseptic surgical technique it finally became possible to relieve a very large number of these cases, even after the sinus had been occluded by a septic thrombus. At the present time, no case is considered hopeless, even although the thrombus may have extended from the sinus downward into the internal jugular vein.

The symptoms of sinus thrombosis are so characteristic that they can hardly be overlooked, provided the patient is under observation for a few days. The most characteristic sign is a sudden elevation of temperature, the thermometer frequently registering 105 or 106°. Coincident with this febrile movement, the pulse becomes rapid and feeble, and there may be mild delirium. In the course of a few hours the temperature falls spontaneously to the normal standard, or it may even become sub-normal. Defervescence is accompanied by profuse perspiration and great prostration. These abrupt temperature changes may occur at frequent intervals, the patient becoming gradually weaker and, unrelieved by surgical means, dies. No other complication of middle ear suppuration produces these symptoms, and it is always safe to infer that any considerable and abrupt elevation of temperature, followed by spontaneous defervescence, is due to the formation of a septic thrombus in one of the neighboring venous channels.

During the last three years I have operated upon nine cases of this character. In eight of the cases the patients recovered, while in one case death occurred as the result of an acute nephritis. Eight of

these patients were adults, but one was a child about four years of age. As stated before, occlusion of the lateral sinus by a septic thrombus usually gives rise to well-marked constitutional symptoms. These symptoms, however, do not appear until the thrombus begins to disintegrate, and cause general systemic infection. While, in a number of my cases, these characteristics have been present, in others they were absent, the diagnosis being made at the time of operation upon the mastoid. This fact, I think, constitutes one of the strongest arguments in favor of a radical operation upon the mastoid, in every case where surgical interference is necessary. In the sinus cases presenting no constitutional symptoms which have come under my observation, the thorough removal of all softened bone resulted in an exposure of this large venous channel. Examination, both by ocular inspection and palpation, have indicated either partial or complete occlusion of the vessel. Where the vein is completely occluded the condition is easily recognized, the course being marked by a ridge immediately beneath the dura, which feels hard and unyielding on palpation. The presence or absence of pulsation is, I think, a sign of but little diagnostic importance. In some cases the sinus wall is considerably thickened, as the result of inflammation, and here it is often impossible to determine positively the patency of the vessel. In these cases it has been my practice to introduce a sterilized aspirating needle into the sinus. If fluid blood is withdrawn there is every reason to suppose that the sinus is not the seat of a septic inflammation.

If the sinus contains fluid blood, and temperature record shows no evidences of general sepsis, it is wise to abstain from further interference with the sinus. If, however, the constitutional symptoms point to septic infection, the mere fact that the sinus contains fluid blood should not deter the surgeon from opening the vessel by a free incision and removing any deposit which may be found within it.

In the early stage of thrombosis the vessel is not completely occluded, complete closure occurring only after the condition has existed for several days. The recognition of this condition in the incipient stages, and the institution of surgical measures for its relief, promise the best results. If the mastoid operation is thoroughly performed, and all softened bone removed, there will be very few cases of sinus thrombosis which will escape observation in the very early stage, that is, in the stage in which they are the most amenable to treatment.

From the foregoing remarks it will be seen that, in any mastoid inflammation, the operator should bear in mind the possibility of an infection of the lateral sinus. It is therefore imperative that the

operation be conducted on strictly aseptic principles, no matter how simple the case may seem upon examination. The preparation of the field of operation, the careful sterilization of instruments, and the technique of the procedure, should always be carried out with as much care as if the operator expected in each case to enter the cranial cavity. If this plan is followed, the presence of a thrombus in the lateral sinus does not render the operation more serious, as the condition can be quickly and thoroughly relieved. If the operative technique is perfect, infection of the sinus, at the hands of the operator, is impossible. If the vessel in question is exposed during the course of a regular mastoid operation, and, upon exploration in the manner already described, appears to be partially or completely occluded, it should be dealt with as follows: A free incision should be made through the sinus wall with a small, sharp scalpel. If occlusion is complete no hemorrhage will follow this incision. The opening should then be enlarged both upward and downward, by small, blunt-pointed scissors, and the clot removed with a sharp spoon. It should be the invariable rule never to open the lateral sinus until the bony covering over the vessel has been removed for, at least, an inch. If this precaution is not observed, it is difficult to complete the operation rapidly, and to control the hemorrhage at the same time. After the sinus wall has been incised, a small, sharp curette should be introduced downward toward the jugular bulb, removing any clots which may be present. During this procedure, firm pressure should be made on the jugular in the neck, in order to prevent the possible entrance of any detached fragment into the general circulation. Pressure upon the jugular is also indicated, as several cases have been reported in which air has entered the jugular vein through the lateral sinus, causing sudden death. It must be borne in mind, that free hemorrhage from below does not show conclusively that the inflammatory process has not extended to the jugular vein. If the inferior petrosal sinus is patent there may be free hemorrhage from the lateral sinus, although occlusion may exist below the jugular bulb. Such an occlusion, however, seldom occurs without giving rise to marked symptoms, such as tenderness in the neck, tumefaction along the anterior border of the sternomastoid muscle, and sudden and extensive elevation in temperature. After the sinus has been cleared below, the hemorrhage is controlled by the introduction of a strip of iodoform gauze, both into the lumen of the vessel and also between the external wall of the sinus and the inner table of the skull. The upper portion of the vein is then dealt with in a similar manner, the curette being carried upward

toward the torcular until free hemorrhage occurs. When it is evident that the channel is perfectly free, the hemorrhage is controlled, as above described.

In cases where constitutional symptoms indicate sinus thrombosis, the same technique should be followed. It is always advisable to enter the mastoid antrum as the primary procedure, and to remove all infectious foci before exposing the sinus. In desperate cases, however, the shock caused by the operation must be kept in mind, and it is sometimes wise to clear out the sinus as a primary procedure, thus removing the chief focus of constitutional infection. The suppurative process within the mastoid then receives attention at a later period, after the patient has become strong enough to bear the shock of a second operation.

While the position of the sinus varies considerably in different subjects, it normally lies about half an inch behind the posterior wall of the osseous canal, and an exposure of the meninges at this point will ordinarily expose the sigmoid portion of the vessel.

The method of removing the clot, and of controlling the hemorrhage, is exactly the same as that already detailed.

In cases where the mastoid antrum has been opened, as a primary procedure, and the sinus exposed, it is important to prevent subsequent infection of the sinus from the middle ear and mastoid. In order to do this it has been my practice to dress the sinus wound and the mastoid wound separately. A strip of iodoform gauze is carried through the *aditus ad antrum* into the vault of the tympanum. This strip is then held to one side and the region of the sinus is thoroughly covered by strips of iodoform gauze, the gauze being packed firmly about the sinus, so as to shut it off completely from the anterior portion of the wound. The first strip of gauze is then packed into the mastoid cells. Any secretion draining from the tympanum into the dressing will be rendered innocuous by passing through the successive layers of the iodoform gauze and infection becomes practically impossible. In the subsequent dressings it is also wise to follow the same procedure. The packing in the mastoid antrum is removed first, the gauze covering the sinus being left *in situ*. The antrum and external auditory meatus are then irrigated with a solution of bichloride of mercury, 1-5000, and this portion of the wound redressed. After this fresh dressing has been applied the sinus dressing is removed and reapplied as before. While this precaution may seem rather unnecessary, owing to the fact that the infection occurred primarily through the middle ear, I believe that success in these operations has been very largely due to the attention given this detail.

Up to the present time I have operated upon nine cases of sinus thrombosis. Of this number eight have recovered. In the fatal case death was caused by an acute nephritis, probably not septic in character but dependent upon ether anæsthesia. At the time of the operation there was well-marked glycosuria, the urine containing three per cent. of sugar by volume. The uræmic symptoms appeared about thirty hours after the operation, and were perfectly characteristic, so there could be no doubt as to the cause of death.

I have not mentioned those cases of sinus thrombosis in which ligation of the internal jugular is necessary. Of late there has been considerable discussion as to the advisability of tying the internal jugular vein, low down in the neck, wherever there is thrombosis of the lateral sinus. To my mind, the subject is hardly worthy of discussion. If the jugular is involved, any surgeon would naturally ligate it, and would ligate it as low down in the neck as possible, in order to avoid systemic infection. If, however, there is no evidence of jugular involvement at the time of operation, the mere fact that the sinus contains a thrombus should not lead the surgeon to tie the vein in its lower portion. The technique of ligating the internal jugular vein need not be detailed here. It need only be said that, when this procedure is deemed necessary, the ligation of the internal jugular alone is not sufficient. It is also necessary to tie the lingual and facial veins, and the branch of communication between the external and internal jugular in order to prevent systemic infection through the collateral circulation.

In conducting the above procedure two ligatures should be applied close to each other, both to the jugular and to the branches above enumerated. After these ligatures have been tied, the entire vein containing the thrombus should be carefully dissected out, so as to remove any possible chance of subsequent infection through the lymphatics, the vessels being divided between the ligatures already applied.

In conclusion, it seems to the author that the chief lesson to be learned from these cases, is—

First—A complete and prompt mastoid operation, in every case. This means the removal of all softened bone, no matter what structures may be exposed during the operation.

Second—The early surgical intervention in all cases of sinus thrombosis, whether discovered during the mastoid operation or recognized by constitutional symptoms.

Third—That the advisability of interference with the internal jugular vein depends upon the presence of symptoms indicative of jugular thrombosis in any particular case.

MASTOIDITIS OF DENTAL ORIGIN, OCCURRING IN A DIABETIC, WITH AN UNUSUAL FORMATION OF THE MASTOID CELLS—OPERATION—RECOVERY.*

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Ever since the first artificial opening into the mastoid cells was made by Jean Louis Petit, on account of involvement of these cavities, the *locus causi* of their inflammation has been a source of investigation for the aurists and pathologists.

A diseased condition of the teeth, or their surrounding structures, has, for many years, been recognized as frequently causative of pain in the ear. Pennefather¹ says that "Pain in the ear, without any inflammation in the meatus and with a perfectly healthy condition of the membrane of the tympanum, may occur, and is sometimes of a most agonizing character. In many of these cases the teeth are, to all appearance, quite sound, but firm pressure on each tooth will, if the pain arises there, at once reveal the offender." Von Troltsch² says, that "It is sometimes difficult to distinguish pain in the molar teeth from pain in the middle ear." Rau³ says, that "In young children dentition is always attended with irritation in, and sometimes discharge from, the skin lining the external auditory canal." J. Dundas Grant⁴ says, that "In very many cases of otalgia the *fonis et origo* will be found in the teeth, attention to which will alone bring about a curative result." Sexton,⁵ in speaking of dental irritation as a causative factor of aural disturbances, says: "Should the throat be involved, as indeed it is likely to be, the ears will be found to be affected through other channels than the irritation of the dental filaments of the fifth nerve, for the pharyngeal and tonsilar branches of the eighth cranial nerve will bring the throat into direct relationship with the sympathetic system, through which the ear is affected.

* * * The pain of the teeth, which we familiarly associate with their inflammatory condition, is signally absent in many of their affections, and it is the absence of this symptom that gives rise to the chief cause of danger." Dr. Sexton tabulates 1799 cases of aural disease in which the symptoms of reflex irritation from diseased teeth were especially severe, in twenty-six of which there was severe purulent inflammation of the middle ear, involving the mastoid cellulæ. How many of these twenty-six cases called for operative procedure he does not state. Burnett⁶ states that reflex ulceration of the

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canal from dental disease is not an uncommon occurrence. Goldstein⁷ claimed that dental irritation, through the posterior temporal and inferior auricular branches of the inferior maxillary, was responsible for the location of syphilides of the external ear, in a case reported by him. Barclay,⁸ in an article on "The Relation Between Diseases of the Teeth and Ears," very ably exploits the nervous connection between the teeth and ears, as follows: "As is well known, the trigeminus, or fifth cranial nerve, is pre-eminently and almost exclusively the basis of this connection. With its dental distribution practitioners of dentistry are peculiarly familiar, and of it hourly reminded. Respecting its terminal filaments in the ear, however, I need only refer to the fact that the greater part of the auricle and external meatus are supplied by its auriculo-temporal branch. By neural anastomosis, as well as through the Gasserian ganglion, we find the dental nerves still further connected with the ear. The tensor tympani, tensor palati, and tympanic plexus, receive fibers from the otic ganglion; the tympanum is supplied as well with filaments from the carotid plexus of the sympathetic and from the great superficial petrosal (from the Vidian). The trigeminus consists of motor and sensory fibers; fibers having vaso-motor influence over certain regions, notably the ear; and so-called 'trophic fibers,' upon whose functional integrity largely depend nutrition and reactive power in the regions supplied by this nerve. Such being its character, is it at all astonishing that it should have proved the exemplar, *par excellence*, of nerves in which disorder or disease at one terminal branch produces disturbance at another?"

That the presence of diabetes mellitus is a grave complication to any abnormal condition of the human system is acknowledged by all, and that it has been considered especially so in case of inflammatory involvement of the auditory apparatus, is attested by the writings of those few who have encountered such cases. That it has not been met with more frequently seems strange when we consider how prone the diabetic is to furunculosis. Dench⁹ says: "Within the tympanum there is scarcely any condition characteristic of diabetes, although it is probable that all structures, including those of the middle ear, are more liable to attacks of inflammation than under normal conditions. When the condition is an acute inflammatory one, suppuration is the rule. This is worthy of note where the mastoid process becomes involved consecutive to an inflammation within the canal or middle ear." Buck,¹⁰ in the most comprehensive article that has been written on the subject of diabetes in its relation to mastoiditis, collates only ten cases as the number he was able to find

reported, and concludes: "First, that disease of the mastoid process is likely to be a more serious affair in persons affected with diabetes mellitus than in those who are in an ordinarily healthy condition; and second, that the destructive processes within the temporal bone tend to advance at a more rapid rate in diabetics than in non-diabetic individuals." As a result of the study of these ten cases, and of four which he reports from his own practice, Buck concludes that if the prognosis is to be more favorable than at first conceded, "It is imperative that mastoid operations upon diabetic persons shall be performed at a comparatively early stage of the disease in the temporal bone; that is, before the lateral sinus of the dura mater has become seriously involved." Urquhart¹¹ reports two cases of abscess in the mastoid region, associated with diabetes mellitus. In one only was the bone involved, and in that there was only unhealthy appearance, but no caries. Korner¹² claims that, in diabetics, inflammation of the ear and mastoid may occur suddenly, and that when the mastoid is thus affected the condition of the bone is revealed by percussion. When changes have taken place within the mastoid cavity a dull percussion sound is given out from the diseased side, while the unaffected side gives out the normal hollow sound. J. Dundas Grant¹³ says that "Auscultation of the mastoid as an aid in diagnosis of deep lesions, as suggested by Okuneff, seems to have no practical value."

The result of the cases alluded to in this paper, with the case I will report, would show the following: Total number of cases of mastoiditis occurring in diabetics recorded (so far as I have been able to learn), fifteen; cases in which operative interference was not resorted to show a mortality of seventy-one per cent; cases operated on show a mortality of only thirty-seven and one-half per cent. In arriving at these results no account is taken of the two cases reported by Urquhart, because, in the abridged report at hand, they are stated to be *abscesses in the region of the mastoid*.

G. O. K., male, aet. sixty-seven. Previous history: When about eight years old patient had measles, accompanied by an otitis media, which almost completely destroyed the membrana tympanum, leaving only a narrow rim attached to the wall of the canal. Has had occasional "running" from the ear ever since, but never enough to bother him. Has had diabetes mellitus for several years; for the past year his urine has contained, on an average, four per cent of sugar. Patient had been surf bathing at the sea shore the week previous to consulting me. On the 20th and 21st of August, 1897, he was visiting at Fairport, N. Y., and complained of pain in his

throat, especially during the act of deglutition. On the evening of the 21st he left Fairport for St. Louis, and on the 22d, when dining on the train, he could hardly swallow any solids and had recourse to eating bread that had been soaked to make it soft. As he stated the case, he could swallow until the bolus got to "the hill," but he could not get the food over "the hill." The next day, the 23d, the pain on deglutition was not so great. On the 24th, he complained of pain in the right ear, and called at my office, but missed me, as I was out of town.

On my return, on the 26th, he called and asked me to look in his right ear, as he thought he might have gotten some sand in it while bathing. He did not say anything about the pain he had had, and after a cursory inspection of the external auditory canal, I told him there was nothing in the ear. The next day, the 27th, he called and then told me of the pain in the throat and ear. A careful examination of the throat and ear failed to reveal anything warranting the pain he complained of. I had him return home and prescribed a saline. On the 28th I asked my confrere, Dr. M. A. Goldstein, to see the case with me. Again, on oral examination, nothing was evident in the pharynx or larynx, excepting that the few teeth he had were affected with Rigg's disease. Aural examination disclosed no redness, tenderness or bulging of the canal; no discharge present. Pain on pressure over right temporal and right occipital region, with especial pain just posterior to the right mastoid region. Pain on pressure in the right pre-cervical region, with a slightly inflamed gland. Sugar, four and one-half per cent. Prescribed opium to control pain and the diabetes. Upon inquiring, found that he had been having trouble with his teeth for about a year and was, at the time, under the care of a dentist. On the 29, the same condition existed, practically unchanged; extracted two of the teeth which seemed to bother him the most, with a slight mitigation of the pain and of the difficulty in swallowing. Temperature, 98°; pulse, 82.

From the 30th of August to the 3d of September, the condition was about the same, with gradual progression of the severity of the pain, which occasionally became almost a hemicrania, the point of severity shifting towards the occipital protuberance and, once only, did the pain extend to the opposite, left, side of the head. In the mean time the cold pack had been tried, but had to be abandoned, owing to its use increasing the local pain; hot fomentations eased the pain to some extent; swallowing became more and more difficult, until it was only with the greatest effort that the patient could swallow water. Temperature had never risen two degrees above the normal.

On the 4th, I decided that an operation was imperative, although I was fearful that the diabetic condition of the patient would militate against his recovery. Dr. W. A. McCandless was called in to do the operation.

On the 5th of September the patient was operated upon. When placed on the operating table, pulse was 80 and temperature 99°.

Upon making the customary Wilde's incision over the mastoid region, the periosteum was found greatly inflamed, but the underlying bone appeared almost normal. With the chisel and mallet an opening was made into the lower part of the antrum. The bone was found almost entirely free from diploëic substance, being unusually thick, nearly half an inch, and of extreme, almost ivory hardness. In fact, the bone was so thick and flaked off in what appeared to be plates, that for a moment it was doubtful whether it was warrantable to continue the operation. Upon entering the antrum, considerable inflammation was found, but no pus. Time of operation, 2 p.m.; time consumed in operation, fifteen minutes; temperature 99°, pulse 90. Patient rallied nicely. From 7:30 p.m. patient complained greatly of pain, and slept but little, only one hour from 11 p. m. to 6 a.m. September 6th, 7:30 a.m., temperature 99°, pulse 80; complained of pain in the top of head; a slight tinge of pus from wound. When cleansing the wound with the syringe the water escaped freely through external auditory canal; 5 p.m., temperature 98.4°, pulse 68 and weak. Pain still constant and complained of shortness of breath and great weakness; small quantities of brandy given to sustain patient. September 7th, 7 a.m., temperature 99°, pulse 75. Pain lessening and resting easier; pus discharging from wound freely; sugar 1 per cent; 11 p.m., temperature 98.4°, respiration 79; very restless and trying to get out of bed; breathing difficult; complained of pain in the head towards occipital region. September 8th, 7 a.m., temperature 98.2°, pulse 76; complains less of pain and resting easier; 12:30 p.m., complains of some pain in throat and *left* ear; 1:30 a.m., fell asleep after taking two one-fourth grain doses of morphine sulphate; irregular breathing and nervous twitching of muscles of face. Awoke at 6 a.m., with some pain in head, pulse weak, skin moist and cold. September 9th, 10th and 11th condition about the same. September 12th, at 3 a.m., patient was semi-conscious and was moaning in his troubled sleep, when all at once he awoke with a start and sat upright in bed and asked the attendant whether she had heard anything in his head crack. He said he was troubled with a horrid nightmare, when he felt something in his head give way with such a loud noise that he was certain it should have

been audible to his attendant. The pain in his head ceased and he fell asleep at 3:25 and slept soundly until 5 a.m., free from pain. The following morning, in dressing the mastoid wound, an increased amount of pus was found. September 14th, pain in the ear again became prominent, accompanied with extreme difficulty in swallowing, and after the closest examination of the wound, external and middle ear, failed to reveal the cause, the teeth were again looked after and an experienced dentist was called in. He pronounced the remaining teeth, a lower molar and canine, right side and four lower teeth on the left side, as sound, although affected to some extent with Rigg's disease, and advised against their extraction. The pain continuing, on the 15th, I insisted upon the two right lower teeth being extracted. An abscess was found at the root of the molar and osteophytes on the root of the canine. Within a half hour the pain in ear and in throat, on deglutition, ceased. September 16th and 17th, patient rested and ate well. On the 18th the pain in ear and in throat, on deglutition, again returned. As nothing, after careful aural exploration and examination, disclosed anything warranting the pain, I again had recourse to the mouth, and found another abscess in the cavity left by the extraction of the molar. As soon as this was attended to the pain again left and the patient made an uninterrupted recovery. The wound has entirely healed and the patient has again resumed his vocation. Management of wound was that usually employed. During convalescence the patient was placed on a suitable diet and the quantity of sugar constantly decreased until, at the time of writing, there is but a trace. During the course of the case, sulph. of morphia, tr. aconite rad., sulph. of quinia, Marchand's peroxide of hydrogen, borolyptol, saline and aperient waters, and antiseptics, were used as indicated. Diet consisted of broth, eggs, milk, brandy and seltzer.

When the patient was able to leave the house he objected seriously to wearing the necessary bandages, and as soon as the wound was closed I directed him to secure an ear-muff and have Dr. Schleiffarth fix it so that it could be so retained in position as to cover the ear and the site of the wound. The accompanying illustration shows how nicely this was accomplished.

I would like to call especial attention to three points in the history of this case: The apparent direct connection between the dental and mastoid trouble; that the diabetic condition apparently had no influence upon the course of the trouble and did not seem to affect, in the least, the repair of the surgical injury; that this was also an anomalous case in that there seemed to be a complete division of the

mastoid cells, for after, on the night of the 12th of September, he felt the "crack" in his head, there was an increased flow of pus and an abatement, at once, of the severe occipital and aural pains.

I feel certain that had I had all the teeth on the lower right side extracted as soon as the case came under my observation that there would have been no progressive mastoid disease.

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A Case of Otitis Media Purulenta Acuta (double) with Mastoiditis on Left Side Following Removal of Adenoids—B. C. COLLINS, Brooklyn, N. Y.

A female child about two years of age had post-nasal adenoids removed about 3 p. m. The same night had earache, and in the morning both ears were suppurating. In the left ear the mastoid became involved, necessitating operation. I report this case from the fact that it is not uncommon for rhinologists and laryngologists of large experience to say, "no inflammation of middle ear follows removal of adenoids." I can also say positively that this child had no previous ear trouble.

ON THE PREVENTION OF PYÆMIC COMPLICATIONS FROM ACUTE OTITIS MEDIA.*

B. F. CHURCH, M.D., LOS ANGELES, CAL.

The object of this paper is to call attention to the gravity of middle ear inflammation with its possible attending complications, and also to point out some of the sins of commission which, in the writer's opinion, are for the most part responsible for the direful results too often witnessed in this affection.

In the management of these cases it is our desire, first, to prevent pyæmic extension to the meninges, lateral sinus, labyrinth or mastoid cells. Second, to obviate the very frequent and extremely dangerous condition to hearing and life, chronic suppurative otitis media.

When we consider the anatomy of the parts surrounding the tympanum, separated as it is from the labyrinth by a band of connective tissue, the brain, internal carotid and jugular vein by thin plates of bone, and from the meninges and lateral sinus, in another direction, by diploic tissue, we marvel at the possibility of that cavity being filled with deadly micro-organisms and yet the life of the individual be preserved. Statistics, it is true, show a small number of deaths to the whole number of middle-ear diseases, at the same time we should not underestimate the seriousness of the complicated cases or lose sight of those that insidiously extend to vital parts.

In reviewing the literature of suppurating diseases of the brain and its membranes, the fact is apparent that a very large majority of these cases come from either an acute or chronic suppuration of the middle ear; in fact, if trauma and tuberculosis are eliminated as a cause of abscess of the brain, we would seldom err to lay all of them at the door of middle-ear disease. The importance then of preventing the disease from extending while in the acute form and to guard against its reaching a chronic state of suppuration is very apparent.

It is highly probable that in every case of acute otitis media the mastoid antrum is involved to some degree in the same inflammatory process, but, as Burnett says: "It, like the acute inflammation in the tympanic cavity, will get well if not secondarily infected from without by improper treatment. Hence, the prevention of mastoid disease, in cases of acute otitis media, resolves itself into the prevention of secondary infection of the acutely inflamed middle ear." By the

*Read before the Los Angeles Medical Association, April 29, 1898.

closure of the Eustachian tube during the congestive stage, nature offers a frail barrier to the entrance of air with its abounding micro-organisms to the inflamed and lymph-bathed surface of the drum cavity. Admitting that this condition affords a proper nidus and pabulum for the growth and development of the micro-organisms of the air, they are the lesser evil as compared to the streptococci that abundantly abound in the naso-pharynx, and which are so effectually deposited in the tympanic cavity by the meddlesome practice of inflation, either by Valsalva's or Politzer's method. The trauma produced by the forcible entrance of air against the inflamed and sensitive drum membrane must also be borne in mind as a result of such procedures. In those fortunate cases that escape infection from the naso-pharynx, resolution takes place, usually without rupture of the drum or serious harm. We would class, then, all cases of acute middle-ear inflammation under the head of *infected* and *non-infected*. Assuming the drum membrane to be intact at the onset of the disease, all infected cases come from the emigration of pathogenic germs—streptococci—from the naso-pharynx or other extraneous matter deposited there by forcible inflation. Those not so irrationally treated, excluding those from exanthemata, recover by resolution. As nature is potent to prevent infection when let alone so is she capable, by a little assistance, of making repairs after infection when not prevented from doing so by over treatment. An enormous secretion is poured out in the tympanic cavity which ruptures the drum and, by a syphonic action, empties the tympanum and mastoid antrum through the external auditory canal. Unfortunately the resistance of the drum to the exit of the invaders is sometimes greater than the frail barriers to the vital parts, which lie so dangerously near, when one or more gives way, permitting the extension of the disease to the labyrinth, brain, or large blood channels.

Paracentesis of the drum membrane is imperatively demanded in all cases of acute middle-ear disease where the pain is not relieved in a few hours by application of heat or local blood letting, especially if the drum is seen to bulge at any part by the pressure of fluids from within the tympanum. The incision, as a rule, should be made in the posterior part of the membrane, preferably under an anesthetic, and large enough to insure perfect drainage. Politzeration and all other forms of inflation must be strenuously avoided during the active stage of the inflammation, as such a procedure is not only painful and injurious to the inflamed and highly sensitive surfaces against which the air is forced, but there is danger and great probability of infecting the other ear. To amply verify the danger of infecting the

sound ear by the routine practice of inflating the tympanum in acute otitis media, we have only to observe the precise regularity in which the calamity occurs after such irrational treatment. After freely incising the drum membrane, a strip of antiseptic gauze, one-quarter of an inch wide and one and a half inches long, should be inserted into the ear, reinforced by a small fold of the same material in the concha, and the ear let severely alone for twenty-four hours, when the same dressing should be repeated without the aid of syringe or douche. If the discharge is very profuse the dressing may be changed more often. Extreme and persistent pain in the ear is evidence of pressure, and its presence after paracentesis of the drum membrane indicates that the opening is blocked when it should be enlarged. The drum being patulous, the external canal acts as a syphon and will effectively empty the tympanum, mastoid antrum, and cells, if permitted to do so. The capillary attraction of the gauze reaching from the drum outward assists the process. The external auditory canal, being a habitude of the wily staphylococci, moist heat, in the form of germicidal solutions, may be used as hot as can be borne for the relief of pain. Frequently, however, the drum is too sensitive to bear the weight of the column of water, when dry heat should be used, care being observed in either event to render the external auditory canal aseptic before the drum is perforated. Immediately after the drum is opened, whether a discharge has set in or not, antiseptic gauze should be introduced loosely into the canal as a barrier to micro-organisms and to encourage the flow. The swelling which takes place in the Eustachian tube during the active inflammatory stage of otitis media closes that channel of entrance of air to the tympanic cavity, provided, however, force is not used.

By sterilizing the external auditory canal, incising the drum membrane when there is pressure, and loosely filling the canal with antiseptic gauze which will filter the air that enters, and offers no resistance, but aids the outflow of pent-up exudates, we emulate and assist nature in the highest degree to relieve the sufferer of a most dangerous affection.

On account of the anatomical arrangement of the parts, the most serious form of all middle-ear inflammations are those in which the disease is localized in the attic or upper portion of the tympanum. To Dr. Tansley, of New York, is probably due the most credit for pointing out the specific features of attic cases in contra-distinction to other inflammatory diseases of the middle ear; also the especial dangers of the affection and proper treatment. Internally, above and in front of the attic portion of tympanic cavity lies the brain, sepa-

rated only by a thin shell of bone without diplœ and which is often poorly ossified. Posteriorly the cavity opens into the mastoid antrum and it in turn connects with the mastoid cells. The floor of the attic is a fold of mucous membrane attached to the short process of the malleus and extending across the tympanic cavity to the rounded eminence of the facial canal. Normally the attachments of this fold of mucous membrane are such as to not entirely separate the lower or true tympanic cavity from the attical portion; such a condition, however, is sometimes found and not infrequently the passage is so narrow as to close after a slight swelling, while complete separation of the cavities probably always takes place during high congestive stages. By this power to close the upper part of the tympanum upon the approach of disease, thereby cutting off communication between the antrum and mastoid cells, nature subserves the purpose of placing those important parts out of harm's way, only, however, when the inflammation does not invade the attic to a considerable degree. The conditions which act so favorably when the disease is confined to the lower part of the tympanum, prove a serious complication in attic cases by confining the inflammatory products to a narrow space which is in close proximity to the brain and directly connected with the antrum and mastoid cells. The attic extends somewhat over the bony wall of the meatus and has no outlet for the pent-up exudates save by a small space just below the superior attachment of the drumhead through the flaccid or Shrapnell's membrane and, as the cavity below only reaches to the short process of the malleus, the exit for pus or sen-pus is very narrowly circumscribed even when the parts are not swollen. If artificial means for the escape of pent-up inflammatory products in this space is not promptly afforded, they will burrow under the derma covering the inner superior lip of the external canal which can be seen, together with the posterior superior quadrant of the drum, or Shrapnell's membrane, bulging early in the disease. The rapidity with which the bone is denuded and consequent necrosis and chronic discharge from the ear, of which we are all too familiar, is peculiar to attic disease.

As pain is in proportion to the pressure of retained inflammatory products, extreme pain is always a prominent subjective symptom of this affection. Positive diagnosis is made when the membrana flaccida and derma at the upper posterior extremity of the auditory canal, either one or both, are seen to pout. Both will be reddened and sometimes bulged out sufficiently to touch the floor of the auditory canal, obstructing the drumhead from view. This condition is frequently mistaken for a polypus. *The treatment is early free inci-*

sion and drainage. The method of incision as performed by Dr. Tansley is the best, and is of late frequently written and spoken of as "Tansley's cut in acute attical diseases." A description cannot be better given than in the author's own words. In a paper read before a meeting of the American Otological Society, he says: "At the earliest possible moment, as soon as the diagnosis is made, and that is when an inflammation is seen in the superior or superoposterior part of the drumhead passing upwards from the short process, make a liberal opening in these parts." A broad, strong and of course sharp Graefe's cataract knife is held strongly between the finger and thumb, with cutting edge directed upwards, the point of which is caused to pierce the flaccid membrane no lower than the short process, and in the center of the greatest inflammation. It is passed rather deeply, or until bone is struck, then a strong liberal cut is made upwards or upward and backwards, dividing the tissues for one-half or three-quarters of an inch. I do not think that I have ever made this cut in a case which had been existing for a day or two in which my knife did not pass over rough and denuded bone at the inner and superior lip of the bony canal. The external canal is at once filled with a plug of absorbent cotton and no syringing or douching is permitted. If necessary, a second or even a third cut may be made, if tissues are not thought to be thoroughly divided. Where these cases are seen before pus is formed, it is advisable to thoroughly disinfect the canal before making the incision.

In a few cases where the pain has persisted I have found it necessary to incise the parts again upon the second or third day, but usually the cases immediately improve and the whole inflammatory process passes away in a few days. In many of my cases, where there has been tenderness upon percussion over the mastoid, this cut has been sufficient to relieve the symptoms entirely, but usually if the mastoid cells are implicated it will be necessary to subsequently operate upon the mastoid. But what I want to call the attention to chiefly is the importance of early recognition of these cases and an early incision, and by doing so you will find that mastoid cases and operations and cerebral cases will be materially less.

Burdick Block.

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EDITORIAL.

A REMINDER.

It is embarrassing to the management of THE LARYNGOSCOPE to so frequently urge settlement for the payment of subscriptions, and to many of the busy practitioners among our patrons whose subscriptions are in arrears, we would again offer this reminder: We rely mainly on the support of our subscribers to balance the heavy expenses of maintaining a high-class journal of this character; therefore, we appeal to those of our patrons whose subscriptions are in arrears and who have overlooked numerous statements and our personal letters.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Meeting, Wednesday Evening, May 25, 1898.

Dr. Jonathan Wright, Chairman. Dr. Thos. J. Harris, Secretary.

Dr. Tansley presented two bandages which he used in mastoid operations. He said he had used those bandages in such cases and they had always given satisfaction. A number of years ago he had the misfortune to have to perform a double mastoid operation and found it difficult to keep a bandage on, so he devised the one presented. This consisted of a band which went around the chin and over the head. From this a triangular piece extended back so as to cover the mastoid area; if a double one was required there was a triangular piece on each side; if a single one there was but one which had a band connected to it long enough to pin to the piece which extended over the head. Two safety pins was all that was necessary to fasten it on and there was no danger of it getting out of place.

Dr. Tansley also presented a probe for tamponing the nares. It was a straight plane probe, but was made of aluminium and did not become injured when put in acids.

The first case presented by Dr. Tansley was one of suspected pharyngeal aneurism. The patient complained of accumulation of a great deal of mucus in the morning and it sometimes took three hours to clear it out. She felt that it was growing worse all the time and suffered greatly from the accumulated secretions. Posterior to the pillar of the fauces a small tumor was visible which had a distinct pulsation.

The second case presented by Dr. Tansley was a little girl five years of age with a deviated septum. The child had been operated on when two months old for congenital cataract and the operation was successful. A short time ago the child had been brought to him with the history that there was a growth in the nostril. Examination revealed a deviated septum. He was treating it at the present time by pressing the septum over by the use of a rubber tube. He did not favor operating on children so young. This case had been under treatment for about two months and he wished to present it to the Section while it was under treatment.

Dr. Myles presented a case, a physician, who came to him complaining of nasal obstruction due to a deflected septum. He per-

formed a Gleason operation, by sawing the septum at the base, making a longer cut than usual, pressed the septum over, and held it there by a nasal tube. At the end of a month there was no more trouble and the patient was very much pleased with the present condition.

Dr. Myles also presented a specimen of nasal fibroma which he had recently removed with difficulty by cutting it into three pieces. He presented sections of the fibroma and also drawings of it in the hope that the members of the Section would discuss these cases. Three years ago Dr. Noyes had presented a case to the Section in which the growth exerted pressure on the region of the right temple; later he had seen that case successfully operated upon. He thought these growths were usually found in boys from sixteen to twenty years of age.

Dr. Knight presented a case of abscess of the right frontal sinus with opening at the outer angle. The sinus remained open and there was some fear that perhaps the left sinus was becoming affected, and an operation would be necessary.

Dr. Knight also presented a case of empyema of the maxillary sinus, and transilluminated the antrum. The patient had been under treatment for a number of months; the antrum had been drained by removing the molar tooth and had been curetted.

DISCUSSION.

Dr. Meyer, in discussing the case presented by Dr. Tansley, said that on first glance, without studying the case, he would conclude that it was a case of atheromatous condition of the blood vessel.

The specimen of nasal fibroma which Dr. Myles presented was of great interest, and Dr. Myles had had better results than he had in a case which came under his care. He was not able to get a wire around the growth, and had been able to cut away only enough for examination.

Dr. Lederman said he had a case of fibroma in a young girl two years ago. There were five growths, and he was astonished at how easily they were removed without hemorrhage. They were solid fibromatous growths. One of the growths extended into the upper pharynx, and was removed by the snare being introduced through the nose, with the finger in the rhino-pharynx.

Dr. Newcomb said that he was under the impression that what was known as the Gleason operation should be known as the Watson operation. Dr. Watson, of Philadelphia, had really described the operation before Dr. Gleason's paper appeared. He was of the opinion that Dr. Watson should have the credit.

Dr. Curtis asked Dr. Newcomb why he was under the impression Dr. Watson should receive the credit. Dr. Newcomb replied that Dr. Watson had told him that he had illustrated the operation before one of the societies before Dr. Gleason presented the paper.

Dr. Myles said his only reason for calling it the Gleason operation was the paper by Dr. Gleason on the subject.

Dr. Wright said that there had been several cases of pharyngeal aneurism presented at the section, but none so large as the one presented by Dr. Tansley. It appeared to be fusiform. He thought the other cases presented were in young people and probably congenital; however, it was a question whether they were congenital or not.

Dr. Myles said he had presented a similar case several years ago, and a general practitioner had pronounced it an atheromatous condition.

In regard to nasal fibroma, he was in doubt whether they should be called fibroma instead of polypi.

Dr. Wright said the further back the growth the more fibrous tissue present. The only case he knew of was one of Dr. Knight's, in which there was pure fibrous tissue. Generally, there was edematous tissue present.

Dr. Harris asked if excessive deviation in the nasal septum in children was a common occurrence, and what result could be expected from using the splint.

Dr. Tansley said the case under consideration was still a question as to result. That he preferred not to operate on the child was his reason for resorting to the present method being used.

Paper.

"Transillumination in the Diagnosis of Empyæma of the Maxillary Antrum," presented by Dr. Charles H. Knight. (See THE LARYNGOSCOPE, Vol. v., No. 1, page 47.)

DISCUSSION.

Dr. Freudenthal said that formerly he was much more anxious about transillumination than now, but yet would not like to operate without its aid in diagnosis. He had seen cases in men where there was no illumination and no empyæma, but this he had not seen in women. One case had given the history of hereditary syphilis, and, presumably, had trouble in the antrum of the left side, but on operating there was no antrum, or so small that it could not be found. He had seen cases in which one antrum was much larger than the other. These were conditions sometimes met with, and that had to be taken into consideration.

He had a case of empyæma of the frontal sinus on the right side and outer angle. On waiting the trouble appeared at the inner angle. Here it opened, and after anti-syphilitic remedies got well.

Dr. Phillips said he thought it was good to bring up this question at times, for it freshened the mind and presented new methods of treatment. He agreed with Dr. Knight in the position he had taken. Personally, he might be more influenced by transillumination, but he thought Dr. Knight had taken the position of a conservative man. He thought no one would operate on transillumination alone without other symptoms. There were subjects in which there was very little reflection from either side. The illumination gotten in the lower portion of the face was of little importance; it was the lines about the upper part that were important.

In regard to Dr. Knight's case, which, though cured, yet showed dark areas, he thought it was probable that dark reflections would appear for some time after operation.

As to the question of operating on acute cases, he thought it was better not to operate. They would in all probability get well if carefully treated. Dr. Freudenthal's reference to a man without an antrum reminded him of experiences in the dead house, where they found cases in which there was no antrum and some in which one antrum was larger than the other. He had operated on a case once in which there was no sinus.

Dr. Curtis said, only the other day he had a case brought to his office supposed to be suffering from the internal dental nerve. The girl was suffering severely, but there was no evidence of the condition existing. He punctured with the trocar through the inferior meatus and removed over a tablespoonful of pus.

He thought that in some cases injection of the blood vessels and the amount of hæmoglobin might obscure the diagnosis by transillumination. He thought it was quite proper to use the puncture.

Dr. Myles said he was much interested in the paper. The value of transillumination was not hard to determine, but much depended upon the use of a lamp with a definite power. In regard to the similarity of size in the different sides, he had seen 150 acute and chronic cases and only in one had the transillumination mislead and that was in a case of thickened membrane.

He had used the trocar for a long time, but recently had been able to enter through the natural opening and hence had not used it.

Dr. Gleitsmann said he differed somewhat as to the use of the exploratory puncture. He thought it was valuable when it was not possible to enter through the natural opening. Combining with it the injection of antiseptics and drawing off the pus, if there was any present, was a valuable procedure. With care there need be but a minimum risk of infection.

Dr. Newcomb thought Dr. Myles' point as to the intensity of light was very important. It was necessary also to try transillumination in a room that was absolutely dark. In regard to the area of illumination he would suggest the use of the nasal speculum and notice the inner nasal illumination. It was quite true that the shadow lines would persist for a long time, and as suggested, it was probably due to thickened membrane. In all probability it was similar to thickened pleura in a child, which was generally altered and more or less damaged for a long time.

Dr. Mayer said that puncture one and one-half inches from the anterior nares would find the antrum and get whatever fluid was present. He had been much annoyed by the return of the water, getting on face, etc., but he had obviated this by using an ordinary syringe, used antitoxin serum. It had been of great convenience and benefit to him.

Dr. Knight said, in regard to exploratory puncture, he was willing to modify his position so as to admit of its use as a last resort.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Hay Fever, "June or Rose Cold"—ANDERS—*The Med. World*, Vol. xvi, No. 6.

This nasomotor disturbance is described in this article as a catarrhal inflammation of the upper air passages, occurring during the summer months, and is associated with asthmatic dyspnea.

Surgical treatment to pathological changes in the nasal cavities is recommended. Douching with a weak quinine solution together with the internal administration of the drug and Fowler's solution, is said to have acted beneficially. Repeated small doses of chloral ($2\frac{1}{2}$ grains) is also serviceable. Anders has good results from the use of atropin in small doses. He gives $\frac{1}{100}$ of a grain every hour, or $\frac{1}{300}$ of a grain every half-hour, during the first few days.

LEDERMAN.

Modern Pathology and Therapy of Acute Rhinitis—A. R. SOLENERBERGER—*Jour. Am. Med. Assn.*, Feb. 26, 1898.

The writer observes that if the constitutional condition of the individual is such as to render him free from the predisposition, he will never suffer from coryza, hence our therapeutic measures should be directed toward any cause that is found disturbing the physiologic equilibrium, or disintegrating the tissues. While operative treatment is approved of for the correction of nasal stenosis, sinus disease, etc., much more stress is laid upon the importance of systemic treatment.

PYNCHON. (BISHOP.)

The Importance of Examining the Nose in Troublesome Coughs—

A. C. PALMER—*Southern Med. Record*, May, 1898.

Dr. Palmer states that anatomical investigations have shown that the anterior region of the nasal cavity has a nervous connection with the larynx, first, through the nasal nerves, then the ophthalmic, through the Casserian ganglion to the sympathetic, through this nerve to the laryngeal and then to the superior laryngeal and its terminal filaments.

On this account many nasal disorders are associated with distinct laryngeal disturbances. These laryngeal coughs, due to nasal irritation, are of a distinctly harsh, irritating nature with scanty secretion. Two clinical cases illustrate the value of nasal treatment in laryngeal cough.

SCHEPPEGRELL.

An Etiologic Study of Atrophic Disease of the Upper Air Passages, Based upon an Examination of Two Hundred Cases—

J. L. GOODALE—*four. Am. Med. Assn.*, Feb. 26, 1898.

While atrophic rhinitis is more than twice as common in females as in males, pure pharyngeal atrophy occurs with nearly equal frequency in both sexes, and, while the former appears most often between the ages of five and fifteen, the latter is met with only in adult life. Accompanying conditions of hypertrophy, or of lymphoid-tissue enlargement, were frequently met with, but the writer does not regard them as being causative of the atrophy, though, in his selection of cases for consideration, he purposely omits those common cases which would tend to controvert such theory, viz., cases wherein pressure has evidently been the original cause of the atrophy.

PYNCHON. (BISHOP.)

The Abuse of the Nasal Douche—LICHTWITZ—*Medical Press and Circular*, Feb. 9, 1898.

Dr. Lichtwitz states that in most cases nasal hypersecretion is due to other causes than inflammation of the nasal and retro-nasal mucous membrane, to sinusitis deviation of the septum, new growths in the nasal cavity, etc. Nevertheless, it is still a common practice to resort to the nasal douche. In the majority of cases it is of no service, and it may seriously injure the epithelium of the nasal mucous membrane. The author has seen cases in which the power of smell was lost in this way, and experiments have shown that no active antiseptic solution is free from danger to the sense of smell.

The nasal douche is frequently the cause of distressing headaches, which may probably be accounted for by the fluid passing into the sinuses. One of the gravest dangers of the douche is that water may reach the middle ear through the Eustachian tube and cause suppurative otitis media.

SCHEPPEGRELL.

On Nasal Reflexes—A. C. H. MOLL, Amsterdam—*Jour. Laryn. Rhin. and Otol.*, February, 1898.

A man of sixty had not swallowed anything but fluids for more than a year. There was nothing abnormal in the pharynx, larynx, or lungs. The œsophageal probe passed easily. In the right nostril a large spina septi, which was nearly embedded in the inferior turbinate, was seen. After cocainization, the swallowing was much easier. The spur was removed by means of the saw, and the difficulty in swallowing disappeared. Another instance of the same symptom in a female, due to a nasal septal spur, was reported.

LEDERMAN.

Epileptoid Seizures, Apparently Due to Nasal Obstruction—E. H. ROOT—*New York Med. Jour.*, May 21, 1898.

Dr. Root reports a case of a woman, of twenty-five years, who suffered from epileptoid attacks, which did not recur after the removal of synechia of both nostrils.

SCHEPPEGRELL.

A Case of Reflex Aphonia, of Nasal Origin, in Hysteria—CROUZILLAC, Toulouse—*Jour. Laryn. Rhin. and Otol.*, March, 1898.

This affection occurred in a hysterical patient. The larynx was anemic, otherwise normal. In the right nostril on the posterior end of the inferior turbinate, there was a broad sessile tumor. On pressure with a probe the voice became clearer, and after cocaine was applied, it was quite clear. The growth was destroyed with the cautery, and a lasting return of the voice resulted.

LEDERMAN.

Leeches in Coryza—D'AQUITOL—*Am. Med. Surg. Bulletin*, Vol. xi, No. 12.

Dr. D'Aquitol recommends the application of leeches in acute coryza, to the lower border of the nasal septum. (Danger of infection must be considered.—M. D. L.)

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

Observations on Some Pathologic Conditions of the Naso-Pharynx—EMMA E. MUNSON—*Jour. Am. Med. Assn.*, Mar. 5, '98.

The writer reports several cases wherein hypertrophied lymphoid tissue in the vault of the pharynx was observed in patients ranging in age from fifteen to forty years. In size the growth was generally small, and in appearance often smooth, and was, in some cases, attached by synechiæ to the Eustachian prominence. Surgical removal was followed by relief of all symptoms traceable thereto, except deafness. Post-nasal discharges, purulent rhinitis, recurrent coryza and pharyngitis were most often relieved. Vocal resonance was also improved, and the upper register of the singing voice elevated two or three notes. The ear cases required special after treatment. Attention is also called to the uric acid factor in the causation of naso-pharyngitis and chronic middle-ear catarrh, and to the importance of administering anti-lithæmic remedies.

PYNCHON. (BISHOP.)

Complete Congenital Occlusion of the Posterior Nares—J. P.

CLARK—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

Bony occlusion in a patient eighteen years of age, with usual symptoms. Obstruction removed with drill. No tubes worn. No sense of smell. Headaches somewhat lessened.

LEDERMAN.

Angina Pectoris Following Inflammation of the Tonsils—ZILGIEN—*Southern Cal. Practitioner*, May, 1898.

Dr. Zilgien records four cases of angina pectoris of several years' duration, which followed attacks of follicular tonsillitis. He believes the heart affection to be due to neuralgia of the cardiac plexus, resulting from the absorption of toxic materials eliminated by the diseased tonsils.

SCHEPPEGRELL.

Pneumococci on the Healthy Tonsil—M. M. BEZANCON AND GRIDON—*Maryland Med. Jour.*, Vol. xxxix, No. 7.

After considerable bacteriological investigation, M. M. Bezancon and Gridon, of Paris, announce that this organism is almost invariably present in the tonsil, without the presence of pneumonia, and they believe that this germ may be the cause of a variety of diseases.

LEDERMAN.

Four Cases of Extragenital Chancre—BLOOM—*Medical News*, March 19, 1898.

In the first case reported by Dr. Bloom there was a small ulcerated patch on the upper surface of the tongue, one-half inch from the tip and a little to the right of the median line. It had first been observed two days previous.

In the second case, the chancre existed on the median line of the upper lip, from which the induration was fast disappearing. It had been present for about two months.

SCHEPPEGRELL.

III. ACCESSORY SINUSES.

Empyema of the Frontal Sinus—BARTH—*Proceedings Ger. Soc. Surg.*, April 13, 1898.

Dr. Barth describes his method of operating, in which he trephines the antrum and enlarges the opening towards the nose, and then closes the outside wound. He claims good results both cosmetically and in regard to the ultimate cure of the diseased process. He reports in detail a case operated in this way, in which a cure resulted in fourteen days.

SCHEPPEGRELL.

Surgical Treatment of the Sinuses Accessory to the Nose—L. J. HAMMOND—*Philadelphia Polyclinic*, Vol. vii, No. 24.

In point of frequency of involvement the writer believes that the anterior ethmoidal region comes first, then the sphenoidal, frontal, and lastly the maxillary. Interference with the sense of smell, he thinks, points to an involvement of the anterior ethmoidal cells on account of the anatomical relation of the olfactory bulbs. He recommends radical surgical treatment in the form of a notched-shaped curette to be followed by douching the nasal cavities with a boric acid solution twice in twenty-four hours. If the discharge continues, some diseased tissue has been left behind and must be removed. He mentions two forms of atrophy that demand surgical treatment.

LEDERMAN.

Right Maxillary Empyema Operated Through the Canine Fossa—CASTEX—*La France Med.*, Feb. 5, 1898.

Dr. Castex reports the case of a patient who suffered from acute empyema of the right maxillary sinus with considerable swelling of the cheek and of the right eyelid. The sinus was opened through the canine fossa and drained through the middle meatus, according to the method of Luc, resulting in complete recovery.

SCHEPPEGRELL.

IV. LARYNX AND TRACHEA.

Early Diagnosis of a Case of Cancer of the Larynx—CLARK AND HARRINGTON—*Boston Med. and Surg. Journ.*, February, 1898.

Drs. Clark and Harrington state that slight continued huskiness or hoarseness in a patient beyond middle life is a suggestive symptom. If due to a growth in the larynx it will, probably, be found to be malignant. The dyspnœa and dysphagia will depend upon the location of the tumor. There is nothing characteristic in the early stages of laryngeal carcinoma, and a negative microscopic examination should not be too much relied upon. Prognosis without operation is fatal within two or three years. Prognosis after treatment depends largely upon the time when the operation is done—the smaller the growth the less radical the operation required, and the greater the probability of success.

Czwielitzer (*Beiträge zur Klin. Chir.*, 1896), in analyzing his cases states that the proportion of partial resection is larger, showing that the operation is done earlier than formerly, there being a falling off in total extirpations, owing to the fatal results of this operation. Of thirteen cases reported by this author nine were partial, two of half the larynx, and two total. Five cases, all of partial resection, were living at the time of this report, being six weeks, one and a half, five and eight and one-half years, respectively, since operation.

Most writers have little faith in the intralaryngeal removal of these growths. Fränkel, however, is a staunch and able supporter of this method, and he reports nine cases operated on by himself with five cures. Of twenty-two cases collated by Hansberg and Sendziak there were twelve cures.

SCHEPPEGRELL.

Plugging of Trachea by Caseous Gland—GEORGE F. LONG-BOTHAM—*The Lancet*, March 19, 1898.

A boy, aged eight, was admitted to hospital in a semi-conscious, cyanosed condition, evidently suffering from some obstruction to his respiration. There was no history of foreign body getting into the air passages. Chloroform was administered, giving some relief. Intubation with a catheter did not benefit the symptoms, but evidently indicated some obstruction a considerable way down the windpipe. Tracheotomy was then performed, but before its completion the child had ceased breathing. Aspiration with a long india-rubber tube was then tried, but yielded no good result. A long tube was then passed down for the purpose of irritating the mucous membrane of the trachea and bronchi, whereupon the child gave a deep inspiration, and again ceased breathing. The heart beats were now becoming smaller and much more rapid, but artificial respiration, the galvanic battery, and this catheterization were nevertheless continued. Suddenly some cheesy-looking matter, about half the size of a hazel nut, was coughed up, after which the child began to breathe freely, and made an uninterrupted

recovery, although no more than one subsequent occasion a little of this cheesy matter was coughed up. This cheesy matter proved to be part of a caseous bronchial gland, which had evidently ulcerated its way into the trachea, about the bifurcation.

ST. CLAIR THOMSON.

A Teasel Burr in the Larynx—SMITH—*Am. Med. Surg. Bulletin*, Vol. xii, No. 4.

The foreign body was discovered in a young man, eighteen years old, who was unable to speak. While laughing a friend had blown the object into his mouth. On laryngoscopic examination the burr was seen imbedded in the anterior commissure immobilizing the vocal cords, which were much swollen and infiltrated. Under cocaine, the foreign substance was removed by means of a Schrötter tube forceps. It took three weeks before speech returned.

LEDERMAN.

Foreign Body in the Air Passages—E. PEYRISSAC—*Revue Hebdomadaire de Laryng.*, etc., January, 1898.

Dr. E. Peyrissac reports a case in which intra-tracheal injection of cold water resulted in the removal of a foreign body without resorting to tracheotomy.

SCHEPPEGRELL.

Two Cases of Foreign Bodies in the Air Passages—A. E. WIGG—*Australasian Med. Gaz.*, Vol. xvii, No. 4, April, 1898.

Case I. Foreign body in trachea. Boy aged four years. While eating was suddenly seized with choking. Seen three hours later the child was gasping for breath. There was marked indrawing of the ribs and sternum with inspiration, but expiration not so difficult. There was great cyanosis and semiconsciousness, the extremities cold and clammy and the heart's action rapid and feeble. Chloroform was administered in small quantity and tracheotomy rapidly performed. On dilating the opening, a foreign body was seen protruding downward between the vocal cords. It was removed with forceps and proved to be a piece of sheep's rib, triangular in shape, and about three-quarters of an inch in length.

Wigg retained the tube thirty-six hours, as on account of the injury to the larynx he feared œdema. He describes his method of performing tracheotomy rapidly.

Case II. Foreign body in small bronchus. Woman, aged thirty, weak from attack of quinsy. During extraction of a tooth under ether anæsthesia, the operator missed the tooth, which with a snap disappeared from the forceps and could not be found. Patient subsequently complained of pain at lower end of sternum and of constant coughing. No physical signs detected of presence of foreign body and Roentgen ray negative. A week after dental operation, slight dullness at right base at back. Tracheotomy was done, patient inverted, a probe passed through the wound down

the bronchial tube, but nothing was felt. Operation relieved cough. After expectoration of large quantities of offensive pus for eight days patient died of exhaustion.

At the autopsy, a large empty empyema was found on right side, communicating through small abscess with a bronchus. A decayed bicuspid tooth was found near the abscess, tightly impacted in one of the smaller bronchi.

Wigg thinks it difficult to avoid the possibility of such an accident during dental extraction, but hopes dentists will be impressed by his record of the necessity of exercising every possible precaution against similar accidents. EATON.

Extirpation of the Larynx and Œsophagus—GARRÉ—Münch.

Med. Woch., May 3, 1898.

Reports three noteworthy cases. Case I occurred in a man, aged forty-three. The whole larynx was extirpated for malignant disease. The trachea was divided through the first ring, and the larynx was separated from the œsophagus. The œsophageal wall was left up to the arytenoid cartilages. The hyo-thyroid membrane was divided through, the epiglottis being taken away. The patient made a good recovery, and was free from recurrence two years later. Case II was that of a woman, aged forty-nine. Here the larynx and a large piece of the œsophagus were removed. The carcinoma started in the gullet and spread into the larynx. The diagnosis was only made possible by a laryngofissure. The patient was free from recurrence four months afterward. Garré referring to the statistics of laryngectomy, says that the improved technique has considerably reduced the death rate. Death has usually resulted from broncho-pneumonia. This is to be avoided by a careful protection of the trachea and the shutting off of the lumen from possible contamination by secretions. This can be effected by Trendelenburg's tampon cannula or by Hahn's cannula surrounded by a sponge. Prevention of the broncho-pneumonia is also assisted by the closure of the pharynx by suture or a plastic operation. The position of the patient is most important—a horizontal position with inclination of the head backward allows of the secretions draining away from the trachea. By attention to these points, the mortality has fallen to 20 per cent. The author appears to think that a splitting open of the larynx is often necessary to the correct and early diagnosis of carcinoma laryngis. Finally, Garré relates a third case with resection of five cm. of the œsophagus and excision of the larynx and upper five rings of the trachea. He closed in the great defect in the œsophagus by means of healthy mucous membrane dissected off the trachea. Somewhat curiously, this mucous membrane did not prove sensitive to the contact of food. When a total transverse division of the œsophagus has to be made, the plastic operation becomes more difficult, and various devices have been had recourse to. Garré's patient recovered well from the operation, but unfortunately an early recurrence took place in the glands.

ST. CLAIR THOMSON.

V. EAR.

The Influence of Diseases of the Nares and Pharynx on Aural Affections—L. S. SOMERS—*Univ. Med. Mag.*, Vol. ix, No. 11.

In considering the predominating influence nasal and pharyngeal disease exerts upon middle-ear affections, the author bases the following conclusions upon a study of 600 cases of middle-ear involvement:

1. Sclerosis of the middle ear is usually the result of previous nasal or pharyngeal disease.
2. Otitis media suppurativa is a common and frequent result of acute or chronic naso-pharyngeal disease.
3. Fully seventy-five per cent of all forms of middle-ear disease will show, on examination, or give a history of naso-pharyngeal disease.
4. Sixty-four per cent of tympanic affections are coincident with pathological changes, either in the nares or pharynx, or both.
5. Sclerotic or atrophic changes of the naso-pharynx are of little consequence in the production of deafness as compared with chronic hypertrophy or any morbid change producing congestion of the nose or throat.
6. Of nasal affections, hypertrophy of the turbinals is the most potent factor in the production of aural disease. Deviated septum and exostoses influence the tympanic cavity by producing changes in the atmospheric pressure.
7. Aural affections are more frequent in hypertrophies of the post-nasal space or naso-pharynx than in either pure nasal or pharyngeal disease.
8. The effects of passing disease of the nares or pharynx in the production of middle-ear disease are of much importance.
9. General diseases, such as measles, with local naso-pharyngeal manifestations, exert a marked causal influence in the production of middle-ear disease.
10. To a great extent the successful issue of aural disease depends upon naso-pharyngeal disease.

LEDERMAN.

Paracentesis of the Drum Membrane in Middle-Ear Disease—ST.

JOHN ROOSA—*Medical Record*, April 9, 1898.

Dr. St. John Roosa advocates conservatism in the matter of paracentesis in acute middle-ear disease. This is properly and safely undertaken only where there is a bulging membrane, and when the use of leaches and hot water have failed to give relief. The traumatism of a free paracentesis in a subacute case is grave, and unnecessary paracentesis in an acutely inflamed membrane is a more serious procedure than simply opening into the mastoid cells.

SCHEPPEGRELL.

Three Cases of Suppurative Otitis Media—HIRAM WOODS—*Jour.*

Am. Med. Assn., March 19, 1898.

The writer reports three cases of mastoid disease wherein the discharge was slight, and the indications for operation not pro-

nounced. The operation in two cases gave favorable results, while in the third, a temporary recovery at least followed curetting aural polypi, though, in this case, as a radical operation was not permitted, the writer anticipates a recurrence of acute symptoms.

PYNCHON. (BISHOP.)

A Case of Scarlet Fever Complicated with Acute Suppurative Otitis Media and Acute Hemorrhagic Septicæmia Treated by Antistreptococci Serum ; Recovery—HAROLD LOW—*Lancet*, March 19, 1898.

A girl, aged six, was seized with scarlatina. On the fourth day of the rash, pain in the left ear was complained of, and the next day there was some discharge from the ear. Three days afterward the mastoid antrum was opened by Mr. Ballance in the usual way, and pus welled out at the first touch of the gouge. The tympanic cavity itself was carefully avoided. A drainage tube was inserted, and the wound was closed. The temperature fell one degree, but two days afterward the child vomited, and was lethargic and drowsy. Four days after the opening of the antrum Mr. Ballance saw the patient, and agreed that her condition was due to general septicæmic infection, and not to localized intracranial inflammation. Treatment by antistreptococci serum was therefore instituted. Although in a very grave condition at one time, the patient recovered. Convalescence was interrupted by an attack of purpura. The discharge from both ears ceased. [No report of condition of membrane.]

Both cultures of the patient's blood showed the presence of virulent streptococci.

The following remarks are added by Mr. Ballance : "This case shows what can be done by perseverance and unremitting attention. The opening of the mastoid antrum was undertaken with the view not only of relieving pain, and of giving unhindered exit to pent-up pus, but also in the hope of saving the delicate structures of the tympanum from complete destruction. On May 23 the child's condition was exceedingly grave. The absence of paresis, optic neuritis and cerebral vomiting, negatived the presence of localized or diffused intracranial inflammation. Moreover, the general septic condition did not seem to depend on infection from the temporal bone, which a suitably planned operation on the lateral sinus and jugular vein might arrest. The high fever, rapid pulse, rapid respiration, jaundice, drowsiness, incontinence of urine, distension of the abdomen, fœtid diarrhœa and later the hemorrhages, made for the diagnosis of general acute scarlatinal septicæmia. The child would certainly have died if antistreptococci serum had not been employed, and the injections continued even when life was ebbing away. The serum steadied the temperature, improved the pulse and respiration, cleared the mind, moistened the tongue and postponed the fatal issue of the acute stage of the illness which was imminent. In acute septic infection every effort should be made to tide over the acute stage, for the prognosis of chronic septicæmia

and pyæmia is good. The hemorrhages had nothing to do with the serum treatment, but were due to blood changes arising out of the acute septic process. The hemorrhagic condition was treated by chloride of calcium, and with fresh milk and fruit; in fact, in the manner which yields the best results in scurvy and scurvy rickets."

ST. CLAIR THOMSON.

Two Cases of Mastoiditis, with Abscess of the Neck—J. H.

BRYAN—*Journ. Am. Med. Assn.*, March 5, 1898.

Dr. J. H. Bryan, Washington, D. C., reports two cases of acute suppurative mastoiditis, complicated with abscesses of the neck. Both had been treated with poultices and Politzer's air bag. Thorough opening for the liberation of pus and the removal of necrosed bone, followed by iodoform gauze packing, resulted in a cure in both cases, but with marked loss of hearing.

EWING. (BISHOP.)

Radical Operation of the Mastoid—A. BARKAN—*Pacific Record of Med. and Surg.*, Vol. xii, No. 10, May, 1898.

The most interesting feature of Barkan's paper is the comparison instituted by one practically familiar with the classic method of Schwartze through operative experiences personally in the clinic at Halle, with that of Macewen as studied in Glasgow under its originator.

The correctness of Macewen's anatomical landmarks are affirmed as the result of twenty odd subjects operated upon after his method by Barkan, who is as confident that the use of the chisel and mallet will be given up for the use of the burr, as he is that the suprameatal triangle is one of the landmarks of the temporal bone.

In the performance of Stacke's radical operation by means of the burr, Barkan has found that "when we come down too near the extremity of this bony wedge (between the antrum and tympanum, Ed.) where the fallopian canal and the semi-circular canal lie in close proximity, I have found that the insertion of the ordinary strabismus hook between the bony wedge and the neighboring near wall of the tympanum offers a perfect protection against the accidental lesion of either the facial or the semi-circular canal; the strabismus hook is pressed forward by the assistant and the burr made to work against it."

The paper also presents useful historical data.

EATON.

Extradural Cerebral Abscess of Aural Origin with Thrombosis of the Lateral Sinus, in which the Sinus was not Opened; Operation; Recovery—ADOLPH BRONNER—*Lancet*, April 2, '98.

When seen the patient was partially comatose. The neck was slightly stiff on the affected side. The temperature was 101°F., and the pulse was 65. The optic discs were congested. The mastoid antrum was opened and was found to be only slightly diseased. The attic, however, was full of granulation and fetid pus. The basilar groove was laid open with the chisel, and a fair quantity of

pus escaped. This, however, was not very offensive. The dura mater was grey and thickened. The lateral sinus was hard and evidently thrombosed. As there were no urgent symptoms and the thrombus was possibly non-septic, it was not punctured or opened. On the third day the pulse and temperature were nearly normal, and on the fifth day the outer wound was closed and the parts dressed through the external meatus. The patient made an uninterrupted recovery.

The case seems to be interesting from several points of view. The gravity of the symptoms pointed to some serious intracranial lesion, apparently to cerebral abscess. There can be no doubt that there was thrombosis of the lateral sinus, and during the operation the question naturally arose whether one should explore and if necessary open up the sinus. It is customary to explore the sinus whenever it has been exposed, but this procedure seems to be contrary to the elementary rules of surgery. No surgeon would think lightly of exploring a vein which was surrounded by septic material in any other part of the body. It certainly is a remarkable fact that the healthy lateral sinus is so frequently opened in these cases and without many fatal or even bad results. It was impossible in this case to know if the thrombus was septic or not, and he, therefore, abstained from exploring it. Had he known it to be septic he would not have opened it up unless there had been any signs of septic poisoning or of pyæmia. If any of these symptoms had been present he would have first tied the jugular vein and then removed the thrombus and the diseased walls of the sinus as far as possible. The outer wound was left open for several days, so that the parts and symptoms could be carefully watched, and so that any further operative interference could, if necessary, have been readily carried out.

ST. CLAIR THOMSON.

VI. DIPHTHERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

The Etiologic Significance of the Loeffler Bacillus—CZAPLEWSKI—

Deutsche Med. Woch., Feb. 10, 1898.

Dr. Czaplewski states that the clinical value of recognizing the diphtheria bacillus resides in the ability to diagnose many cases otherwise doubtful, these being brought to early and proper treatment and properly isolated. The discovery of the bacillus has also taught the profession and the laity the many ways in which diphtheria is carried about, as by means of handkerchiefs, etc., and it has rendered possible the production of an antitoxin, which has undoubtedly made the prognosis of the disease much less grave.

SCHEPPEGRELL.

The Possibilities of Antitoxin in Diphtheria—S. T. SUTTIE—*Southern Med. Rec.*, April, 1898.

Dr. S. T. Suttie gives a favorable report on the anti-diphtheritic serum, based on a study of the mortality rate at the Harper Hospital, Michigan.

SCHEPPEGRELL.

Antidiphtheritic Serum and Diphtheria Albuminurica—C. H.SPRONCK—*Louisville Med. Monthly*, June, 1898.

Dr. C. H. Spronck offers the following conclusions from his experimental study of the action of antidiphtheritic serum upon a pre-existing diphtheria albuminurica:

1. A subcutaneous injection of 10 c. c. of antidiphtheritic serum, or the serum of a non-immunized horse produces in a healthy rabbit of from two to three kilos, a very slight albuminuria, which persists for twenty-four hours only, and results simply in the passage of a small quantity of serum albumin through the renal filters.
2. The amount of this albumin is greater, and it persists longer following a diphtheritic albuminuria in the rabbit; also, if the rabbit has just recovered from a simple albuminuria.
3. The antidiphtheritic serum exercises no unfavorable action on such albuminuria, even when injected in large doses.
4. On the contrary, this serum exercises a favorable action if it is injected from the start of a diphtheritic albuminuria, or during thirty-six to forty-eight hours after the onset of such a complication.
5. Finally the antidiphtheritic serum is incapable of promptly arresting a complicating albuminuria, yet it can materially modify its course for the better and diminish the intensity and duration of the process.

SCHEPPEGRELL.

Milk and Diphtheria—TAYLOR—*Revue Hebdomadaire de Laryngologie, etc.*, April 30, 1898.

At a recent meeting of the Board of Health of Philadelphia, the chief medical inspector, Dr. Taylor, stated that for the week there had been eighty-six cases of diphtheria in the city, causing twenty-two deaths. He added that the majority of these cases had been reported from Germantown (a suburb), and thought that the epidemic was caused by infected milk.

SCHEPPEGRELL.

Extraction Through the Mouth of a Plate Lodged in the Œsophagus—WHITE—*Va. Med. Semi-Monthly*, March 11, 1898.

Dr. White reports the case of a patient who, two months previous, had swallowed a plate bearing one center, upper and incisor tooth. The foreign body was lodged opposite the cricoid cartilage and the patient was unable to swallow anything but liquids. Œsophagotomy was refused on account of its attending danger, and probes were passed from day to day, until, after the fourth day, forceps were inserted beyond the plate and the latter turned partially around, though not extracted. On the seventh day the plate was removed by means of a bristle probang.

The symptoms due to the long presence of the plate seemed to have been very slight and they gradually subsided after removal.

SCHEPPEGRELL.

(In the majority of cases, long retention of an angular foreign body in the Œsophagus is far more dangerous than a skillful Œsophagotomy for its removal.—SCHEPPEGRELL.)

Statistics on Hereditary Disturbances of the Speech Function—

GUTZMANN—*Medical Record*, March 26, 1898.

Some interesting statistics on heredity in disturbances of the speech function were recently furnished by Dr. Gutzmann to the *Verein f. innere Medicin*. He examined in all 2,228 cases of functional and organic disturbances of speech. Of the deaf mutes there was in only 17 per cent of all the cases a history of heredity. Here, therefore, this factor plays a small role. Of the children of deaf-mute parents (both father and mother) 4.6 per cent were also deaf mutes, and in cases in which either the father or the mother was a deaf mute, but 6 per cent of the children were similarly afflicted. He also found very few children thus affected whose parents were blood related.

The author adds that larger figures are found in America, where more than one-half of congenital deaf mutes show hereditary predisposition. Patients with functional disturbance of speech, that is, stammering and stuttering, present a much greater hereditary predisposition.

SCHEPPEGRELL.

VII. INSTRUMENTS AND THERAPY.

Œsophagoscope—KELLING, Berlin—*Proceedings German Society of Surgery*, April 13, 1898.

Dr. Kelling exhibited an œsophagoscope and described it as consisting of a jointed metal tube covered with rubber. It is introduced curved and then by a mechanical arrangement straightened. The patient should be on his back with the head hanging over the table. The tube is illuminated by a small electric light attached to the outer end.

SCHEPPEGRELL.

Intubation with Improved Instruments—MAX THORNER—*Cincinnati Lancet-Clinic*, February 19, 1898.

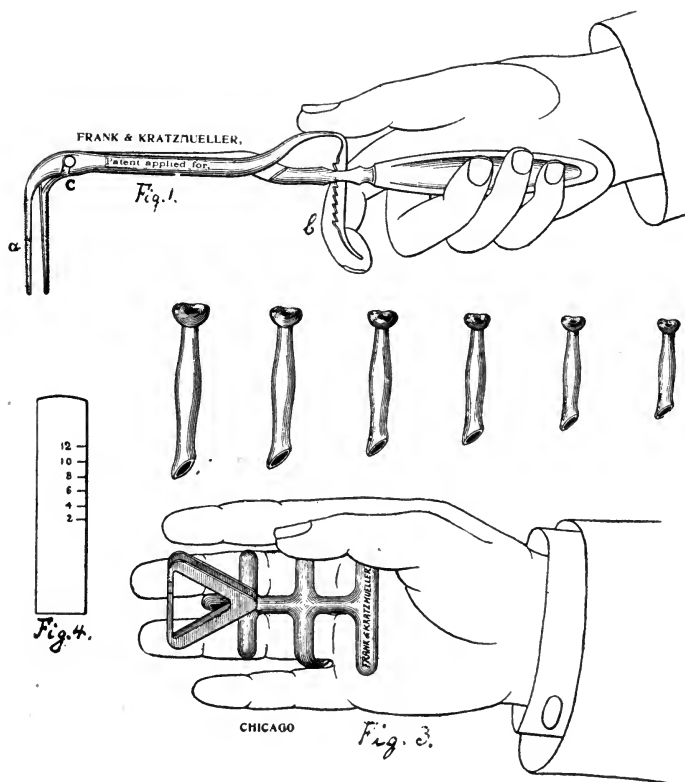
The claim is made that these instruments simplify the operation without in the least changing the method as devised by the late Joseph O'Dwyer.

A troublesome feature of the old instruments is that one needs two separate instruments for either introduction or extraction of the tube. The introducer is a very complicated instrument, and each of the six tubes requires an obturator of its own, which become sometimes very difficult to manage during the act of introduction, as everybody knows, who has had experience with them. Among the many modifications which have been made from time to time, the greatest advance was made in the instrument of Ferroud; but this is rather complicated, as it consists of seven distinct parts; yet it combines the introducer and extractor into *one* instrument. On the principle of this instrument, an introducer and extractor combined has been constructed by a Chicago firm,¹ which surpasses all former attempts at simplifying these instruments.

¹ Frank & Kratzmueller, 56 Dearborn Street, Chicago, Ill.

The instrument which serves as introducer and extractor (Fig. 1) has at its distal extremity two serrated beaks (*a*) about two inches long. They are opened by a pressure with the thumb on the upper portion of the lever (*b*), and are automatically held open by a ratched arrangement, while pressure with the index finger upon the lower end (*b*) of this ratched bar relieves it and closes the beaks. By *firm* pressure the beaks hold the tube *immovably*, so that it cannot slip off nor turn during an attempt at introduction or extraction.

This whole instrument consists of only two parts, the handle with one beak and the lever and ratched arrangement with the other



beak (*b* and *a*), which two parts are readily taken apart by screwing the thumb screw (*c*) towards the right. This screw has the further advantage of being so fastened to the instrument that it cannot be removed from the shank of it by unscrewing it in either direction, and therefore cannot be lost at a time when such a loss would frequently cause a very disastrous delay.

The tubes also have been slightly modified. While the general configuration of the tube is an exact reproduction of the original O'Dwyer tube, the top of it has been slightly changed, in that the opening has received a funnel shape, slanting from the edges of the

rim of the tube toward the center. This facilitates the introduction of the beaks greatly, when the tube is in the larynx, inasmuch as it allows the beaks to glide from any point of the rim almost automatically into the opening, and what this means can be appreciated by those who have had experience with the old extractor. Another change that the tubes have received is that the lower end has been cut off at an angle of about 45° , slanting from right to left. This facilitates the passage of the tube between the vocal cords, and at the same time will prevent injury to the tissues, as the knob of the obturator, which in the original tubes closes the opening of the tubes, is absent in these tubes. This absence of the obturator and its knob has the additional advantage that air passes through the tube along the side of and between the beaks of the introducer *during and immediately after introduction*, a fact which contrasts with the absolute obstruction to breathing while the obturator of the old instrument is in the tube. Therefore, with this instrument the operator need not be in such a hurry to introduce the tube and withdraw the obturator.

Henrotin's mouth-gag is furnished with this set of instruments which differs from the one usually found in the set of O'Dwyer's instruments. It consists of a wedge-shaped mouth-piece, which is fastened to two steel rings by the aid of a curved bar (Fig. 3). In using it the assistant puts two fingers of his left hand through the rings, places the wedge-shaped mouth-piece, which is well covered with rubber tubing, between the left molars, and keeps the left hand firmly pressed against the cheek of the patient. In this manner he not only keeps the mouth opened, but also steadies the head of the patient at the same time.

The old tubes can be used with this new introducer and extractor as well as the new tubes.

A. A. (GOLDSTEIN.)

Formaldehyde in Hay Fever—ALEXANDER—*The Med. Summary*, Vol. xx, No. 4.

In this remedy the author has found an excellent adjuvant. He uses a one-half per cent solution of the commercial article as a spray, and directs the patient to inhale the fumes from a two per cent solution contained in a one-drachm vial.

LEDERMAN.

General and Local Anæsthesia in Laryngology and Rhinology—

JOSEPH S. GIBBS.—*Jour. Am. Med. Assn.*, March 5, 1898.

In the so-called major nasal operations ether anæsthesia is advised, with the patient in the Trendelenburg position. Local anæsthesia is preferable in all cases wherein it is efficient in controlling pain. Prostration occurring while cocaine is being used should sometimes be attributed to shock rather than to toxemia. Eucaine does not cause either intoxication or a sensation of suffocation, both of which are frequently met with in the use of cocaine, hence eucaine is generally employed in nasal and faucial work, while in laryngeal work cocaine has been found more satisfactory. For adenoid operations either nitrous oxide or ether is to be preferred.

PYNCHON. (BISHOP.)

BOOK REVIEWS.

Hay Fever and Its Successful Treatment. By W. C. HOLLOPETER, A.M., M.D., Philadelphia. Small octavo, 137 pages, cloth and gilt. P. Blakiston's Son & Co., publishers, 1898. Price, \$1.00, net.

The title of this volume carries with it the suggestion that a new system of treatment has been employed for the relief and cure of hay fever. Of course, at the present moment, where the question of treatment is of paramount importance, we are all eager for any new suggestions in the line of successful treatment, but a careful perusal of the book convinces us that the therapy here advocated is along the same lines heretofore frequently employed. Considerable stress is laid on the thorough antiseptic cleansing of the nasal areas involved in hay fever. We assert that a too vigorous mechanical interference, necessarily accompanying such careful cleansing as advocated by the author, will frequently aggravate rather than relieve the sensitive mucous membrane. The etiology and pathology of hay fever are given detailed attention. A very exhaustive bibliography on the subject is the concluding chapter of the volume.

Rhino-Otological Case Record. Arranged by EDWIN PYNCHON, M.D., Chicago. Clinic Publishing Co., Chicago, 1898.

The author has chosen the small pamphlet form, assigning one pamphlet to each case, as the most convenient form of keeping a systematic record of cases. Each pamphlet contains ample space for recording every detail in otologic and rhino-laryngologic work. The arrangement of the pages is excellent. The pamphlets, when filled, may be filed by the card-index system, thus affording a ready and handy reference. These pamphlets are inexpensive, when bought in quantity, and past experience with a system of this character privileges us to recommend it to our confreres.

Ear Records. A method of recording ear cases, arranged by JOHN C. LESTER, M.D. and VINCENT GOMEZ, M.D., New York. Published by J. W. and G. H. Hahn, 1898, New York.

This is a substantial, cloth-bound volume of blanks for recording fifty cases, in large folio size, arranged in accordance with the system adopted by the New York Eye and Ear Infirmary. It offers aurists a ready and rapid means for accurate filing of the details of their cases.

Hygiene des Ohres. By DR. O. KORNER, Rostock, Germany. Small quarto, 36 pages. Published by J. F. Bergmann, Wiesbaden, 1898. American agents, Lemcke & Buechner, New York.

This is a small brochure, offering the usual practical suggestions for the care of the ear. The volume is of as much interest to the general practitioner, and even to the laity, as to the aurist.

Die Häufigsten Ohren-krankheiten. (The most frequent diseases of the ear.) By DR. ALFRED STEUER. Eleven plates, with descriptive text. C. G. Naumann, Leipzig, publisher, 1898. American agents, Lemcke & Buechner, New York.

In addition to the text, which considers in brief the diseases of the ear, a prime feature of this volume is a large series of colored plates, illustrating the more frequent pathological conditions met with.

The plates are rather high-colored, yet somewhat original in character. The text is in German.

Ueber die Funktionelle Prüfung des Menschlichen Gehörorgans. By DR. F. BEZOLD, Munich. Large octavo, 240 pages, two lithograph plates. Published by J. F. Bergmann, Wiesbaden. American agents, Lemcke & Buechner, New York.

This is one of the most valuable of recent contributions to otological literature. Many of the tests for determining the functional capacity of the ear have frequently been proven to be inaccurate and uncertain, and the work of so acceptable an authority as Bezold on this subject will be received with much favor. It is an exhaustive treatise, and will help to establish greater certainty in the comprehension of this subject.

Das Hörvermögen der Taubstummen, mit besonderer Berücksichtigung der Helmholtz'schen Theorie, des Sitzes der Erkrankung und des Taubstummen-Unterrichts. By DR. F. BEZOLD, Munich: Large octavo, 156 pages. Published by J. F. Bergmann, Wiesbaden. American agents, Lemcke & Buechner, New York.

Deafmutism is a subject which has been recently and frequently brought to the attention of the aurist, and the careful observations of the author will assist us to a more definite determination of the character of the deafmutism, and in many instances, where prompt measures and training can be instituted, the results have been quite satisfactory.

The pathology of deafmutism is also given a careful consideration.

Pocket Notes of the New British Pharmacopœia, 1898. Bristol, England. Ferris & Company.

This volume presents, in a convenient compass, the information respecting the principal alterations and additions of the new edition of the *British Pharmacopœia*. Complete lists of the articles omitted and the changes in nomenclature are also given. The adoption of a more uniform system of doses has necessitated many changes in the strength of the various preparations, and these require careful notice.

Atlas of Diseases of the Larynx. By DR. L. GRUNWALD, Munich. Edited and translated from the German by CHARLES P. GRAYSON, M.D., Philadelphia. Forty-four chrome-lithograph plates and twenty-five text illustrations. Published by W. B. Saunders, Philadelphia. Cloth. Price, \$2.50, net.

This volume is one of a series of these excellent special atlases, translated from the German, thus presenting to English readers the opportunity of a thorough enjoyment of a valuable laryngeal atlas. The chrome-lithographic plates are the same as those of the original German edition. This atlas has been reviewed in extenso in a previous volume of THE LARYNGOSCOPE.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Section on Laryngology and Otology of the American Medical Association, 48th Annual Meeting, Philadelphia, June 1897. *Am. Med. Assn. Press*, Chicago.

Transactions of the Nineteenth Annual Meeting of the American Laryngological Association, Washington, May, 1897. D. APPLETON & Co., 1898.

Experimental Work on the Penetration of Vaporized Medicaments into the Air Passages. By HOMER M. THOMAS, A.M., M.D., Chicago. Reprint, *Jour. Am. Med. Assn.*, May 28, 1898.

Serious Complications of Suppuration of the Middle Ear. By MAX THORNER, A.M., M.D., Cincinnati.

Three Years of Serum Therapy in Tuberculosis. By J. R. LEMEN, M.D., St. Louis. Reprint, *N. Y. Med. Jour.*, May 14, 1898.

Either a Pocket Inhaler or a Middle-Ear Inflator. By EDWIN PYNCHON, M.D., Chicago. Reprint, *Med. Record*, June 11, 1898.

The Development and Care of the Singing Voice. By RICHMOND MCKINNEY, M.D., Memphis, Tenn.

Chronic Nasal Catarrh. By HENRY G. OHLS, M.D., Chicago. Reprint, *Jour. Am. Med. Assn.*, June 18, 1898.

Some Remarks on Nasal Surgery. By RICHARD MCKINNEY, M.D., Memphis, Tenn. Reprint, *Memphis Med. Monthly*, July, 1898.

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ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

NOTES ON A CASE OF MEMBRANOUS RHINITIS.

BY RICHARD LAKE, F.R.C.S., ENGLAND.

Surgeon and Laryngologist, North London Hospital for Consumption; Assistant Surgeon,
Royal Ear Hospital; Chief Assistant, Ear Department, St. Thomas' Hospital.

Membranous rhinitis is a disease of some rarity, when one sifts out the authentic cases from nasal diphtheria. I am, therefore, tempted to place this case before the profession whilst Price-Brown's¹ is still fresh in the minds of his readers. My own case is not cured and should it turn up again and present any point of interest I will again report.

The earliest mentioned cases of this disease were attributed by their reporters, and by the writers on nasal surgery, even less than a decade since, to a "croupous" inflammation, whatever that may have meant.

In the light of modern methods of investigation this was an eminently unsatisfactory explanation; and as a result one finds that, although for a short period almost all recorded cases proved to be diphtheria, it is only within the few last years that a distinction has been made between diphtheria nasi and membranous rhinitis.

This being the case it is worth briefly looking over the views expressed in the standard works thereby observing the changes which have crept over the views held as to the causation of this disease, a

direct and natural result of the evolution of bacteriology and its intelligent application to nasal surgery.

Macdonald² says, "There does not appear to be any special constitutional factor in the development of this affection;" he later draws a fairly clear line between "croupous" and diphtheritic rhinitis.

Bosworth³ also calls it "croupous" rhinitis and thus describes it: "A fibrinous exudation is mainly to be regarded as a local manifestation of a general blood condition, a local exudation, etc."

As to causation, he proceeds after having stated that the morbid process is due to a germ: "What the germ is the pathological laboratory has not yet told us." The acuteness of this observers' judgment has never been better exemplified; this was written nine years ago.

One more quotation is necessary to give the latest views. Ball⁴ in the last edition of his work gives a description which could not easily be improved upon, we only give a few lines. "The staphylococcus pyogenes aureus in some instances, and the streptococcus pyogenes in others, have been the exciting agents in these cases."

Apart from the bacteriological there are few characteristic signs of this disease, the more important are: the patient's general health suffers but little; the duration of the illness is greater than in true diphtheria and tends to recur at long intervals; one nostril only is generally affected; nasal obstruction is the most marked symptom; diphtheria antitoxine would have no beneficial effect; diphtheria would probably be epidemic if the attack was diphtheria; in this disease the membrane is more translucent, not so dirty looking or opaque as in diphtheria, neither is it adherent nor causes bleeding when removed.

G. B., aged fifty-four, consulted me first the 21st of May, 1897, for nasal obstruction on the right side. There was slight subjective smell at times. The obstruction was not constant and was apparently a sequel to an old affection, viz., hay fever. His general health was good, though he was obviously somewhat nervous. The nose showed moderate obstruction, chronic rhinitis with an unusual pallor of the mucous membrane, and there were a number of whitish flakes of apparently coagulated secretion. I paid but slight attention to these at the time, but in the light of the later history of the case I am sorry no bacteriological examination was made.

Under ordinary treatment the patient obtained considerable relief, so much so that he ceased his visits. Once a few flakes showed up in the left nostril, but as it was the usual time for Mr. B. to have hay fever no notice was taken of its presence. This was in June of the same year.

He called again on the 18th of February, 1898, saying that after a period of considerable relief he was obliged to seek relief again as the old trouble had returned with increased severity.

On examining the nose the mucous membrane presented the same characteristics as before, but where there had been only a few flakes of membrane there was now a whitish gelatinous mass filling entirely the cleft between the septum and the inferior turbinate bone; on removal it resembled the so-called "white" of a plover's egg. This was sent in a sterile tube to Mr. W. D. Severn, whose reports I append:

REPORT ON A SPECIMEN OF MEMBRANE.

TO RICHARD LAKE, ESQ., F.R.C.S.

Case of Membranous Rhinitis—No. 2.

Fragment of soft, but rather tenacious membrane, about three mm. long on the dry surface of old horse serum in a sterile tube.

The membrane was well rubbed over the surface of the serum with a flat thick platinum wire, then rubbed upon another fresh serum tube, then upon an agar surface, and finally two streaks were made upon a second agar surface with the wire.

The membrane was dropped into 60 per cent alcohol to harden afterward. After incubation at 37° C. both the agar tubes and the serum have been found to contain pure cultures of *staphylococcus pyogenes aureus*. Not a single colony of any other organism has appeared. On the old horse serum no growth has occurred at all.

WALTER D. SEVERN.

REPORT (No. 2) ON A FRAGMENT OF MEMBRANE FROM A CASE OF MEMBRANOUS RHINITIS—CASE No. 2.

TO MR. RICHARD LAKE:

Sections have now been cut from the membrane, after embedding it in celloidin. These have been stained by Gram's method, with carbol-fuchsin and tannin and with strong methylene blue (decolorized with acetic acid and after-stained with safranin.) The two latter methods were employed to detect organisms other than the septic cocci. (No other organisms were, however, present.)

No organisms were observed beyond large masses of *staphylococcus pyogenes aureus*, which result coincides exactly with the cultivation obtained, which were *pure* ones, of *s. py. aureus*.

WALTER D. SEVERN.

May 19, 1898.

The treatment adopted in anticipation of the disease being of bacterial origin was hydrogen peroxide, first to cleanse the passage with formaline, one-half per cent afterward to act as a germicide; improvement followed, but the irritation of the formaline prevented my patient from continuing; I next resorted to cautery with trichlor-acetic acid to try and get sufficient shrinkage of tissue to enable him to breathe easily; some slight benefit accrued from this also, but not much.

I had, in the meanwhile, been engaged in attempting to obtain a

staphylococcic antitoxine, but so far unsuccessfully, and now that I have an offer to make it my patient has gone abroad; I suggested his trying the effect of a high altitude, hoping to enable him to combat the microbe if his health was thoroughly set up.

Price-Brown's case, together with this make a small addition to our knowledge, which may possibly assist in laying down some more definite rules to distinguish the two main intra-nasal causes of membrane formation.

I have already given my views earlier in this paper.

One point which has been raised in my mind by this case, is the question of how far maxillary sinusitis was responsible for the continuance of the infection, a point still left in doubt by the refusal on the part of the patient to submit to any operative procedure whatsoever.

It not only raises this point, but at the same time suggests the possibility of there being antral involvement in other similar cases.

There were no symptoms pointing to maxillary sinusitis in this case; transillumination being used only when the intractable nature of the disease had manifested itself.

1. Price-Brown.
2. Macdonald—Diseases of the Nose, 1892, p. 50 and seq.
3. Bosworth—Diseases of the Nose and Throat, 1889, p. 181.
4. Ball—Diseases of the Nose and Pharynx, 1897, p. 102.

Some Defects of Speech; Their Cause and Treatment, with Exhibition of Cases—G. HUDSON MAKUEN, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, March 12, 1898.

The cleft palate operation should be done as early in life as possible before habits of faulty speech are formed. The nasal trouble following operation is that the soft palate is so short and tense that it cannot be made to press against the pharynx so as to properly close the opening to the nasal passages, hence certain consonant sounds cannot be produced. In some cases by surgical means much assistance can be given, the object being to cause the parts to assume as nearly as possible the normal shape. By massage the tenseness may often be overcome.

PYNCHON. (BISHOP.)

INJURY TO INFERIOR AND MIDDLE TURBINALS IN OPERATION FOR DEVIATED SEPTUM.*

BY J. A. STUCKY, M.D., LEXINGTON, KY.

Having had unfavorable results in several cases in which I used the Asch tube in operating for correction of deviation of the nasal septum and having seen three cases in which serious results followed the use of the tube, on account of injury to the inferior and middle turbinate bodies, I am led to suggest a word of caution and submit the following cases in justification of calling your attention to this matter:

I do not desire to be understood as decrying or in any way underrating the efficacy of Dr. Asch's operation and the use of his valuable tubular splints, but to emphasize the fact that the operation as suggested by him is not an easy one to perform, and should be undertaken only after careful study of each case, and that the number of these cases suitable for the use of the tubumalar splint is much more limited than is generally supposed.

Where the septum is so deviated as to impinge upon the turbinate or adhere thereto, I believe it safer to use a tissue knife or probe-pointed bistoury to separate these adhesions, rather than the curved gouge. The "bayonet-pointed" or "beaked" septal knives are much easier and more satisfactorily used than the septal scissors. With the latter it is frequently a very difficult, if not impossible task, to insert them in a case of marked deviation without injury to the turbinate or outer wall of the nasal cavity.

The following marked and typical cases of deviation of the nasal septum to the right, I saw before and after the Asch operation had been performed, and the operation in each case had been done by a skillful and experienced rhinologist. I report briefly the condition several months after the operation:

Case 1—Male, aet. 21. Present condition: Septum fairly straight; marked hyperchondrosis anteriorly; complains of stuffy full feeling in nose and over antrum, and noises in right ear. Interior turbinate fractured and bound down by adhesions to floor of cavity, completely obliterating the meatus. Middle turbinate tilted upward till it pressed against the septum and undergoing polypoid degeneration (as will be seen in specimen.) He states he wore the Asch tube five weeks,

*Read before American Rhinological, Laryngological and Otological Society.

and at this time, six months after the operation, feels worse than before operated upon. The indications for treatment in this case were plain, and I simply refer to them without comment. A turbinectomy was done upon the middle turbinate, and nearly the entire inferior turbinate removed and the meatus curetted of much granular tissue. The hyperchondrosis was removed with the bistoury. The patient was relieved in a few days, and remains so to this day, thirteen months after the operation.

Case 2.—Male, aet. 27. Present condition: Septum slightly deviated to the left, the deformity being over-corrected, but not enough to seriously impede respiration. Inferior turbinate bent, not fractured, and adherent to the floor of the cavity—the meatus almost occluded. The middle turbinate was fractured and freely movable with the probe. This case I saw two weeks after the operation and both inferior and middle turbinate showed plainly the effects of traumatism. The adherent inferior turbinate was freed with the scissors and probe, and ten per cent chromic acid was applied to the swollen tissue. The fractured portion of the middle turbinate was removed with the cold snare, and a grooved vulcanized nasal splint substituted for the Asch tube. This case also made an uninterrupted recovery.

In neither of these cases was there any evidence of injury or disease of the turbinals before the operation. Whether the injuries were inflicted with the curved gouge scissors or forceps (Asch's) cannot be positively stated, but my conviction is it was done by the tube, which I think is too short, too wide and too large at the external opening. In selected cases, with large, roomy nose, the Asch tube has given beautiful results, but with a patient under an anæsthetic, bleeding profusely, and choking with blood, the operator in a hurry to relieve him, it is very easy to exert a little too much pressure in inserting the tube, in some cases pushing it into the wrong place (the middle meatus), thus seriously injuring both turbinates. The splints that have given me the best results are those made of vulcanized or dental rubber (half tube or grooved), wide at bottom, narrow at top, external end a little larger than internal. I submit them for examination.

Lexington, Ky.

WOOL TAMPONS IN THE CONTROL OF NASAL HEMORRHAGE.

BY BERNARD BERENS, M.D., PHILADELPHIA.

The subject of nasal hemorrhage and its control has been worn almost threadbare by the many articles written upon it. My only excuse for now adding to it is the uniform success I have had with the method about to be described. In all cases of hemorrhage from whatever cause resulting from a solution of continuity of any portion of the nasal tract, I proceed as follows: Take a small tampon of sterilized lamb's wool and dip it into a wide-mouthed bottle of boric acid powder or nosophen. Considerable of the powder will be taken up in the meshes of the wool, which is now rolled up into a small compact ball and thrust into the nasal chamber by forceps, and placed over the bleeding surface. As soon as the tampon is released from the grasp of the forceps and moistened by the blood, it swells rapidly and encourages the formation of a clot in the interstices of the tampon. If necessary another tampon can be inserted in the same nasal chamber, either by the surgeon or by the patient. In all that has been written thus far on this subject no mention has been made of the removal of the tampon, whatever material it may consist of, which is frequently followed by considerable and sometimes alarming hemorrhage. To accomplish this removal successfully I instil into the nostril several eye-pipettefuls of benzoinol and then after waiting a few moments the tampon will be easily, if slowly, removed without hemorrhage. The merits of wool tampons are, that while they are absorbent they will not pack or felt, that they are easily sterilized, that they increase clot formation and that they are readily medicated with Monsell's solution peroxide of hydrogen and powders of boric acid, nosophen, etc.

TONSILLOTOMY—WHEN AND HOW TO MAKE IT.

BY J. M. CRAWFORD, M.D., ATLANTA.

I am aware that the subject of tonsillotomy is an old one, but indeed almost all important subjects are old, and yet we often gain much and help our fellow-laborers vastly by speaking of things of every-day life. It is not attempted here to state the origin or trace the history of the operation. I shall endeavor to throw some light on the question, when and how should tonsillotomy be made?

Tonsillotomy should be resorted to when the tonsils extend much beyond the pillars of the fauces, not waiting until they touch each other, especially where aural catarrh exists. It is indicated even when the tonsil is slightly hypertrophied, if the lacunæ are inclined to inflame from collections of caseous secretions. Shaving the tonsil destroys these lacunæ, thereby preventing this frequent and painful inflammation. No one, even the most timid operator would hesitate to make the operation when the tonsils are so large as to reach the uvula, thereby making it laborious to breathe, especially when asleep, and these diseased conditions often prevent respiration. I take the position that one could breathe just sufficiently often as to grow lean, not getting enough oxygen in the lungs on which to thrive. On the other hand he can breathe sufficiently often and deep so that he will be able to grow fat, the diet in both cases being the same, and in such cases of impaired breathing we find the advisability of doing tonsillotomy.

Here we have a boy or girl who, besides sleeping with the mouth open, breathes imperfectly—only about twelve times a minute. Such a patient may not be expected to grow, give him to eat what you may. Even the vulgar notion which leads to fear of losing the power of posterity, is sometimes in the way of the physician when he suggests the operation. Of course this should not be thought of for a moment by the patient or friends, as there is no foundation for this false idea. Neither should the fear of losing one's voice be an obstacle, as there is no danger to be feared on this score. The main difficulty to be met, and this, for the most part, in patients above fifteen years of age (taking it for granted that the operation is properly made), is hemorrhage.

Below the age of fifteen the tonsil is usually soft, and when cut, as with the tonsillotome, the cut edges are more or less mashed or

pressed together, thereby stopping the hemorrhage. In older persons, however, the tonsil is more fibrous. The walls of the cut vessel are pulled apart, as it were, by the firmness of the tonsil itself. I would not hesitate, however, to make the operation, when it was needed, even in the oldest. Fortunately, after a certain age the tonsils atrophy and require to be removed rarely. Fewer cases of hemorrhage occur when the operation is made with the tonsillotome, instead of the vulsellum forceps and bistoury. When using the bistoury and forceps one is apt to pull the tonsil with his forceps too much. In such a case he knows not where he is cutting. On completing the operation and looking into the mouth of the patient he sees a sulcus, where a portion of the tonsil should have been left. A sulcus, besides endangering the life of a patient by hemorrhage (so much of the tonsil being removed), is a source of constant annoyance in that it is a lodging place for food, etc. The tonsillotome makes a clean, straight cut on a level with the pillars of the fauces. The bistoury by its to-and-fro motion leaves the cut surface jagged. There is much less pain in operating with the tonsillotome. I would advise you never to use the forceps and bistoury. I prefer Mackenzie's tonsillotome or some of its modifications to all others. It is more simple, more easily managed and less cumbersome. I much prefer this instrument to the various barbed instruments now on the market. There need be no fear of the tonsil falling into the larynx, as it nearly always adheres to the instrument. Where it does not adhere to the instrument, it falls in the mouth and is expelled. By applying a little cocain (a six per cent solution is quite sufficient) to the tonsils and fauces you allay the sensibility of the throat, which is a great aid in the operation. Be sure that your instrument is over the tonsil just where you wish the incision to be made, then push the blade to its destination.

You will find your patient allows you to remove the first one with a great deal more readiness than the last one. To remove the second one comes the "tug of war." By a little persuasion, however, you can overcome this. Keep your patient quiet for thirty minutes to see if excessive hemorrhage is going to take place. Should this occur you have a safe hemostatic in the cautery. Now should the operation have been made with the bistoury and the deep sulcus of which I have already spoken existed, you would not be able to see the bleeding point, and hence would be debarred from this effective means of arresting the hemorrhage. In this case pressure upon the cut surface with a pledget of cotton will, if diligently used, cause the hemorrhage to cease. This is a very trying procedure, both on the

patient and the doctor. I have used this method and know by experience how trying it is. During my stay with Dr. Calhoun, as assistant, I can recall five or six cases of frightful hemorrhage from tonsillotomy made by him with the knife and forceps. In each case the hemorrhage was stopped by my putting a wet sponge or pledget of cotton on the cut surface and applying pressure. In each of these cases the sulcus existed, making it impossible for me to see the bleeding artery and forcing me to resort to the only safe method for such cases, to-wit: pressure. You will pardon me for my modesty, which can be explained, for claiming at this late date the originality of this plan of pressure by means of a pledget of wet cotton or wet sponge held firmly to the cut surface by the two first fingers. The first time I used this method was in the fall of 1889. The patient, a boy of about sixteen, having been operated upon by Dr. Calhoun, bled more or less profusely while we were at dinner. On our arrival we found him weak indeed, from the great loss of blood. Dr. Calhoun asked me to stop the hemorrhage. He was still bleeding. So, to meet the emergency the case demanded, I quickly applied a wet sponge in order that I might have a moment's time for reflection. This succeeded so thoroughly in stopping the hemorrhage that I ceased my desire for another method. I do not say I was the first one to use pressure for this trouble, but I do say that the idea was original with *me* in employing it. Thus we sometimes meet with difficulties in making this operation. We have, however, at our command, as I have already stated, two means for arresting the hemorrhage: The cautery, when the bleeding point can be seen; in other instances, apply pressure.

29 Grant Building.

Diseases of the Eye Caused by Diseases of the Nose—ALLEN T.

HAIGHT—*Jour. Am. Med. Assn.*, May 21, 1898.

Argument is made that the eye is frequently influenced by conditions of the nose, and an elaborate resumé is given of the literature bearing on the subject. More than one-third of external ocular diseases, in the opinion of the writer, have their predisposing cause in the nasal cavities.

PYNCHON. (BISHOP.)

URTICARIA, INVOLVING THE SOFT PALATE, CAUSING ALARMING SYMPTOMS.

BY M. B. LEDERMAN, M.D.

Lecturer on Diseases of the Nose and Throat, New York Polyclinic; Assistant Aural Surgeon, Manhattan Eye and Ear Hospital; Fellow, New York Academy of Medicine; American Rhinological and Laryngological Society, Etc.

Though this disease is usually a most ephemeral affection, it nevertheless assumes a serious aspect when it attacks the mucous membranes. Its migrating properties are so distinctive, it is quite surprising that so few instances of involvement of the mucous membrane are recorded.

Probably this is due to the elective affinity which the lesions show for the papillary layer of the skin. When one recalls the exaggerated type of these so-called "wheals," with their circumscribed collection of semi-fluid material, the dangers arising from an involvement of the pharyngeal or laryngeal tissues can readily be imagined.

Irregularity in diet; the sting of insects; contact with some forms of animal and plant life, together with certain forms of food and drugs are recognized as exciting factors in this ailment.

In the case which came under my observation, the patient had enjoyed good health up to the time of this attack. He was about thirty-eight years of age, and was spending his summer at the seaside, taking the ocean baths daily.

After coming from the bath one morning, he suddenly became chilled, which feeling was soon followed by considerable nausea and weakness. His friends assisted him to the dressing-room, and administered an alcoholic stimulant, after a short rest he was brought to the hotel and placed in bed, feeling very ill.

Multiform^{*} swellings appeared over his body, especially pronounced about the face. Marked difficulty in swallowing was experienced. His condition became so alarming to those in attendance, that I was requested to come to Mr. X. "without delay, as he was suffocating."

On examining the patient, whom I knew socially, was astonished to find so marked a change in his features. His face was greatly swollen, as if a serious exudation had involved the entire skin. The eyelids were swollen to such a degree as to almost obliterate the optical fissure. His coloring was somewhat cyanotic, and his voice resembled that of an individual suffering from an acute periton-

sillitis. Large "wheals" were present over his chest, abdomen, legs and arms.

On examining his throat, I found the soft palate and uvula so edematous, as to almost close the faucial space. The appearance of the mucous membrane was quite anæmic over certain areas, as if the circulation was restricted at these sites, similar in appearance to the "wheals," as seen upon the skin. Not having serviceable instruments at hand, small pieces of ice were promptly placed into the patient's mouth with very good effect. Ten grains each of calomel and compound jalap powder were given at once. This combination had the desired effect and within six hours the pharyngeal swelling had almost disappeared. No involvement of the larynx could be noticed.

In twenty-four hours Mr. X. had recovered sufficiently to be about, though feeling quite weak.

He informed me that while in bathing, he felt a "jelly-fish" strike against him, and it is probable that this form of marine life was the exciting factor in his distressing attack.

38 East Sixtieth Street.

Cerebral Abscess Consecutive to Purulent Otitis Media—G. BERGAMINI—*Revue Hebdomadaire de Laryngologie, Etc.*, May 7, 1898.

Dr. G. Bergamini reports a case in which the symptoms presented were such as to render the diagnosis particularly difficult. The prominent symptoms were lesions of the cranial nerves, which at first suggested a tumor at the base of the brain. In addition to amaurosis and neuralgia of the right fifth pair, the following phenomena were present:

Paralysis of the third and second cranial nerves; left hemiplegia, which could be referred to a lesion of the right peduncle; paralysis of the left seventh nerve, limited to the interior branch and accompanied by a lesion of the eighth nerve of the same side. If, however, these conditions were due to a tumor at the base of the brain, it must occupy both cranial fossæ while sparing the sixth, seventh and eighth right nerves.

The autopsy showed an enormous abscess which opened into the right lateral ventricle after having destroyed a large portion of the cerebral substance. The optic nerve was reduced to a small thread, the right cerebral peduncle was uniformly diminished in diameter, and the parietal bone of the same side was twice as thin as the corresponding opposite part.

SCHEPPEGRELL.

FALLACIES IN THE PHYSIOLOGY AND FUNCTIONS OF THE LABYRINTH.*

BY M. A. GOLDSTEIN, M.D.

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The great advance made in our knowledge of the physiology and pathology of the external and middle ear during the past decade has far overshadowed, in quality and quantity, the results which have been obtained in the investigations of the internal ear. Perhaps this may be due, in part, to the relative infrequency of diseases of the labyrinth, and the consequent insufficiency of data; perhaps also to the difficulties which often present themselves in making correct diagnoses of many labyrinthine affections. On the other hand, we have many series of valuable clinical observations on diseases of the internal ear, without being able to determine the pathologic changes which have taken place; again, we have interesting post-mortem findings in labyrinthine diseases without the support of proper clinical data. Thus, much of our information on the subject is but the combination of hypotheses and possible conditions, lacking the strength of absolute scientific data and certainties.

Concerning our knowledge of the anatomic and functional changes and the diagnosis of diseases of the internal ear, we are still on the threshold of our subject, notwithstanding the many interesting reports of cases and clinical observations furnished by experienced observers in every section. The physiologic significance of the semi-circular canals has been the subject of considerable difference of opinion, and many of the experimental data now at our disposal are so conflicting that our results have been based on a rather indefinite foundation.

The former theory, that the angles which the semi-circular canals form, arranged perpendicular to each other, thus accounting for their capability to determine the direction of sound, seems to have been entirely discarded. More interest centers about the functions of the semi-circular canals as organs of co-ordinate movement. The funda-

*Paper read at the Third Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association, Chicago, April 7, 1898.

mental experiments upon which this theory is based, were first performed by Flourens. He repeatedly observed, after division of the semi-circular canals in pigeons and rabbits, considerable motor disturbances, which convinced him that these canals were the central and control organs for co-ordinate movement.

Careful investigators, however, operating along the same experimental field, have arrived at decidedly different conclusions. Thus Goltz, Crum-Brown and others look upon the semi-circular canals as the "organ of the sense of equilibrium;" Cyon designates them the "organ of the sense of space;" Löwenberg refers the symptoms mentioned to a reflex transmission of the irritation caused by the injury to the motor nerves of the thalamus opticus. Opposing these theories, Moos, Böttcher, Baginsky and Tomaszewicz infer that all disturbance after injury to the semi-circular canals proceeds from a simultaneous injury to the cerebellum. Many of these conclusions have been reached by experiments conducted on some of the lower mammalia, and the great variation in the data acquired would tend to establish, even without further proof, the uncertainty and fallacy of these several theories.

Permit me to add my own clinical observations relating to the functions of the labyrinth, which, though limited, I have nevertheless been able to repeatedly verify.

In April, 1895, I reported my clinical data of an especially interesting case of exfoliation of the labyrinth. The case was that of a young negro boy, six and one-half years of age, who developed a suppurative otitis media after a severe acute rhinitis. After nearly two years of profuse and continued suppuration, during which time no complications had arisen, the patient came under my observation. The unfavorable aspects of the case had now presented themselves. Mastoid infiltration and inflammation were marked, and complete facial paralysis of the affected side was demonstrable. On operation the greater portion of the outer bony area of the mastoid was found to be a softened, necrotic mass, and could have been more easily ladled out with a spoon than removed with a curette.

In the course of five weeks five sequestra were successively removed from the temporal bone. The largest exfoliated mass contained nearly the entire bony labyrinth. The cochlea was almost completely exfoliated; the vestibule with the ampullæ were plainly visible, also a considerable portion of the semi-circular canals, together with a honey-combed mass of mastoid cells. After the removal of the last sequestrum, the patient was convalescing rapidly,

and January 5, two months after operation, he was presented at a meeting of the St. Louis Medical Society. He was then bright, active and in good spirits. Three weeks later a rapid, general decline ensued, and the patient died shortly afterward of acute miliary tuberculosis.

Unfortunately, permission was not granted for a complete post-mortem, but the right temporal bone was removed and the involved area carefully inspected. Examination of the affected temporal bone, after its removal, corroborated my description of the necrosed and exfoliated areas.

Circumscribing the region of the osseous external auditory meatus, and involving the mastoid and squama, with a radius of about three-quarters of an inch, was a necrotic zone, with irregular but well defined margin. Designating this as the base of a long, cone-shaped canal, we note an axis of about two and one-half inches in length, directed inward, downward and backward, with its apex merging into the Eustachian tube. This cone-shaped sinus, through which the exfoliated bone masses were removed, was lined with quite firm, closely meshed granulations. All landmarks of the osseous meatus auditorious externus and cavum tympanum had disappeared. Of the petrosa, the superior wall and part of the posterior portion of the meatus auditorious internus still remained intact. Examined while fresh, the portion of the nervus acusticus, lodged in the depth of this canal, was, to all appearances, normal in color and consistency. I desire to especially emphasize this fact to substantiate later observations.

After removal of the bone, the exposed cavity was carefully examined, with special stress laid on the cranial areas in direct relationship to the necrosed bone. On the periosteal surface of the bone still remaining, numerous erosions and irregularities were noted, yet the dura mater at all points was perfectly firm and intact. With the existence of a disseminated and rapidly progressing tubercular process, our anticipations of the presence of a tubercular meningitis might have been well founded; the most careful and detailed search, however, failed to reveal any meningeal lesion whatever.

In the first place, I would offer as a proof of the fallacies of the present accepted theories concerning the functions of the semi-circular canals, that this patient walked into the assembly hall of the medical society with a thoroughly steady gait and a perfect sense of direction, walking with head and body erect, and turning to the right or left, as indicated by members of the society conducting the examina-

tion, and all this while the exfoliated labyrinth containing the cochlea and semicircular canals, taken from his right temporal bone, was lying on the table awaiting inspection.

The post-mortem examination substantiated my conclusions that not only the osseous semicircular canals had been entirely exfoliated, but no vestige of even a membranous labyrinth remained, so we are justified in concluding that it also had been destroyed.

Walking and standing tests were repeated frequently, varying the same in every conceivable way by blindfolding the patient, testing with eyes closed, permitting the patient to walk under the influence of loud noises, etc. The results were always positive, the gait firm and steady, position of the head erect, and the power of equilibrium and sense of direction preserved to a nicety.

In presenting these facts it is not my purpose to promulgate any new theory concerning the functions of the labyrinth, but to emphasize the fact that many of our ideas thus far conceived will admit of decided revision.

Concerning the functions of the cochlea, much of our present information is based on hypotheses. By the labors of Helmholtz, Corti, Ranke, Hensen, Hasse, Exner and others, great progress has been made in establishing the functions of the delicate structures of the labyrinth, yet even Helmholtz, whose pioneer work in the physiology of the ear has contributed so many interesting and valuable data, admits the possibility of error in these observations.

In the literature of otology, necrosis of the cochlea or part of the bony structure of the internal ear is not of infrequent occurrence, but an exfoliation of the entire labyrinth in one piece is indeed very rare.

Sexton, Gruber, Guye, Bezold, Rueda and others have seen and reported cases where exfoliation of the cochlea alone has not been attended with total loss of hearing on the affected side. Sexton even emphasizes his observations by the statement: "I fancy no one disputes that in one of my cases marked hearing remained." These cases are, in themselves, substantial clinical evidence that the cochlea is not an absolute essential to hearing. In these cases, however, only the cochlea had been exfoliated, the other structures of the labyrinth remaining intact.

I desire to advance one step further in the conclusions thus far reached. I maintain that in the case which I have reported, of exfoliation of the entire labyrinth, a very fair degree of hearing was retained in the affected ear, and herewith present for consideration the tests and observations recorded. I have been thoroughly cognizant of the difficulties and responsibilities attending an effort to substanti-

ate so radical a statement, and have necessarily adopted the most careful methods and delicate tests to convince myself of the accuracy of my conclusions. The most serious obstacle to contend with was the exclusion of the healthy ear from the sound tests which were instituted. In the majority of tests made I adopted the method suggested by Dennert and Lucæ, with modifications. In determining what degree of sound perception still exists in an affected ear in a case of one-sided deafness, the healthy ear of the patient is stopped, turned toward the source of sound and the tests then made, the affected ear being alternately opened and closed. Whatever difference in the hearing then elicited, is attributed to the affected ear.

A more delicate modification of this method has been successfully used by Burnett. The patient is so placed that the affected ear is toward the operator. The healthy ear (not the ear to be tested) is plugged. With the affected ear open, hearing tests are then instituted. Having thus reached the apparent limit of the hearing power of the affected ear, that ear is then closed, and the tests continued. If the closure of the deaf ear causes no difference in the hearing distance already obtained, it is fair to conclude that whatever amount of hearing exists is not due to passage of sound through the external auditory canal of the affected ear turned toward the test. In such a case the conclusion must therefore be that sound has reached the brain through the agency of the healthy ear. If, however, the stoppage of the affected ear is accompanied by an absolute inability to hear sound tests, it is again rational to conclude that this difference in the hearing power must be attributed to the affected ear. Thus, the final conclusion: "Whatever is heard just as well with the deafer ear stopped as when open, the better ear remaining stopped throughout the testing, must still be heard by the better ear through the head; but whatever is heard with the worse ear open, the good ear being stopped, must be attributed to the worse ear."

The question might be asked, "Why cannot sound be conveyed to the deaf ear through the head, if it is conveyed to the better ear which is stopped and turned away from the sound source?" The reply would be that an ear which, either when stopped or open, perceives no difference in sound conveyed by the meatus, is not sensitive enough to hear sound conveyed to it through the head.

In the consideration of the case at hand, bone conduction tests by aid of tuning forks were excluded, as they were deemed less delicate for a differentiation than ærial sound conduction. Furthermore, as our dealings were directly with an exfoliated labyrinth, the tuning fork, relative to bone conduction, was practically of no value.

The following tabulated notations will indicate clearly the conclusions reached in hearing tests of the affected ear:

HEARING TESTS.	Hearing capacity with both ears closed.	Hearing capacity with affected ear open and good ear closed.
Loud conversation	300 cm.	900 cm.
Whispered conversation	30 cm.	90 cm.
One hundred and fifty centimeter watch	5 cm.	15 cm.
Pölitzer's acoumeter, designated by patient as a loud-ticking watch	15 cm.	35 cm.
Galton whistle; pitched high	30 cm.	60 cm.
Differentiation in sound of C from C ⁴ tuning fork	8 cm.	35 cm.
Musical notes of a loud-sounding harmonium. Differentiation of C (3d octave) from C (5th octave)	35 cm.	90 cm.

In the execution of the enumerated tests the patient was blindfolded; the plugging of the meatus was done by a competent assistant, the forefinger being used as a tight plug. Taking into account the age of the patient and all tendencies to a possible misrepresentation of the hearing capacity, the tests were repeated at frequent intervals with many variations, yet the tests proved doubly valuable, owing to the demonstrable accuracy of the patient's statement.

Thus, the conclusions which have been logically and carefully reached tend to establish the fact that this patient, with an exfoliated labyrinth, still retained partial hearing faculties in the affected ear.

Pathologically, we deal in this case with a destruction of the peripheral or terminal filaments of the auditory nerve, as indicated by necrosis of the cochlea and semicircular canals.

Physiologically, we know that the auditory nerve, when stimulated either at its origin, in its course or at its peripheral terminations, gives rise to sensations of sound. We also have the report from several authentic sources that after exfoliation of the cochlea considerable hearing power may be retained by the affected ear. As the peripheral apparatus is hereby destroyed, how is the function of audition carried on?

We know that perception of light does not depend entirely on the presence of rods, cones and lenses; walking along in a dark corridor and suddenly coming in contact with some external object causes an impression of a bright flash of light. Nor does the sensation of taste depend exclusively on an exercise of the physiologic functions of the tongue; when a galvanic current is applied to the face we readily experience a metallic taste in the mouth.

We even speak of "seeing sounds" where the impressions of musical tones are interpreted by certain individuals as colors of variegated hues; and of "nasal vision," where the nose, in part, performs the function of the impaired or absent eye.

I would illustrate with these examples that even the nerves of special sense may have compensatory functions. Why then can there not be such compensation of the *nervus acousticus*?

In the post-mortem examination it was found, macroscopically and microscopically, that the portion of the auditory nerve still retained within the internal auditory canal was, to all appearances, normal and healthy.

Is it not possible that sound waves could have been conducted through the large sinus left by the removal of the several sequestra, and could thus have been impinged directly on the stump of the exposed auditory nerve and transmitted either directly or by way of the opposite, healthy nerve to the brain?

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Phenomena Observed in Twelve Cases, at Various Stages of the Operation, for Section of the Incudo-Stapedial Articulation and Mobilization of the Stapes—E. B. GLEASON—*Jour. Am. Med. Assn.*, March 5, 1898.

The cases operated were all sclerotic, and the worse ear was invariably selected. Anæsthesia was secured by use of sterilized solutions of cocaine. In all but one case the operation was comparatively bloodless. In every case the hearing was carefully tested after each step of the operation. In no instance did the slightest improvement of hearing follow the incision of the drum-head and the turning forward of the flap or from manipulation of the long process of the incus. In two cases section of the stapedius gave an immediate improvement of hearing, which was further intensified by the subsequent incision of the incudo-stapedial articulation and mobilization of the stapes. In several cases the ankylosis was too pronounced to permit of this latter step, but when accomplished, improvement of hearing followed, though invariably accompanied by vertigo, which lasted from a few minutes to three days. In all cases where tinnitus existed it disappeared after operation, and in no case did any permanent injury follow.

PYNCHON. (BISHOP.)

A DISCOVERY IN THE PHYSIOLOGY OF THE EAR.

W. F. COLE, M.D., WACO, TEX.

(Paper No. 2.)

This paper may be regarded as a sequel to the first, which was published in the May number of *THE LARYNGOSCOPE*, and can only be appreciated fully in connection with that paper, in which I set forth my observations, experiments and deductions in the conduction of sound to the internal ear.

My subsequent investigations, to date, confirm my previous assertions. I have had under observation thirty-two cases. Of these twenty-two cases had neither drums nor ossicles; in six cases drum and handle of malleus were gone; four cases had simple perforation of the drum. In all these cases I have been able to improve the hearing, more or less, by concentrating the sound by means of a rubber tube which I have devised, and a cut of which I herewith present. As explained in my first paper, when the outer drum and



EAR TUBE.

ossicles are destroyed the impaired hearing is due to the dispersion of the sound waves to the attic and antrum connected to the tympanum.

Supposing the membrane of the fenestrum rotunda to be normal, we can secure fair hearing by concentrating the sound waves upon the fenestrum rotunda. I have devised a cone-shaped tube of thin elastic rubber, curved at the apex or smaller end. Both ends of the cone are open: the curved apex with its opening is directed backward so that the sound impulses pass directly to the fenestrum rotunda. The outer end fills the external meatus in such a way that no part of the sound wave is lost. The patients learn very readily to adjust these tubes with proper forceps. Seven of my patients are now wearing such tubes, with entire satisfaction. There are very many people who have lost both drums and ossicles, and yet have good membranes over the fenestrum rotunda. The hearing of all such can be vastly improved by the system which I have devised, which

is based upon very simple principles of acoustics. The increase in intensity of sound passing to the internal ear would approximately be inversely as the area of the tympanic walls to the area of the opening of the apex of the ear tube.

In many cases I have failed to attain marked improvement, but in such cases I have found the fenestrum rotunda covered by hypertrophied mucous membrane, and I have frequently found it covered by epidermis which has apparently overflowed the whole of the tympanum from the external meatus. Such overflow of epidermis doubtless occurred during a long course of otorrhea. My experiments with the above cases suggested to me that perhaps improved hearing might be obtained in hopeless cases of atrophic catarrh of the middle ear. Karl Himly and Sir Astley Cooper, about one hundred years ago, practiced the perforation of the membrana tympani and attained marked improvement in a few cases where the Eustachian tube was closed; hence all cases not due to this cause were failures, and the practice fell into disrepute, though it has been revived with many modifications even to the present day. I have three cases now in whom I have removed the posterior half of the membrana tympani experimentally. In all I succeeded in getting some improvement, but not marked, by means of the tubes. These cases were all of many years standing, and the hearing in all was almost totally lost. I am not able yet to say whether such treatment will be justified in all such cases, but I have no doubt that there are many where such treatment will give excellent results.

It is my opinion that in most cases of atrophic catarrh the membrane of the fenestrum rotunda has been impaired by the disease, but doubtless there are many where this form of treatment affords the only hope.

I am pleased to note the receipt of many letters from both America and Europe commending my first paper. Lack of space forces me to omit many points which I would like to discuss in this paper.

Mastoid Empyema, Etc.—SMITH—*Am. Med. Surg. Bulletin*, Vol. xii, No. 11.

Often, because of the absence of indicative symptoms, an existing empyema of this process is not recognized. Bulging of the posterior-superior quadrant of the membrana tympani is a condition that is distinctly diagnostic of serious mastoid disease, even when no previous tympanic inflammation has existed, and especially if accompanied by considerable head pain, tinnitus and vertigo. Occipital pain is also of diagnostic importance. LEDERMAN.

MASTOIDITIS.*

BY ELLET ORRIN SISSON, M.D.

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It is not within the scope of this paper to touch upon all the phases of this disease; to do so would necessitate the presentation of an exhaustive paper, for the existent literature on this subject is indeed vast, and teems with clinical data that is of vital importance, and, that would have to be quoted in order to do the subject justice. Therefore, the author will confine himself to two divisions only, namely, the etiology and pathology of mastoiditis, hoping to bring out in the former some points which have recently been advanced and which have not received free discussion at the hands of aural surgeons.

As regards the etiology of mastoiditis, statistics go to show that the most common cause of an acute inflammation in this region is an extension of a similar process from the middle ear, the primary lesion being either acute or chronic in character. Primary mastoiditis, although uncommon, is occasionally seen, and may follow an exposure to cold, or a traumatism, or may be a manifestation of a tubercular or specific diathesis. The last named condition is probably the most common cause of a primary mastoid inflammation, a gummatous deposit occurring and subsequently breaking down in the characteristic manner. Inflammatory conditions within the meatus may also extend to the mastoid by contiguity. A simple circumscribed inflammation may produce this result, especially when located upon the posterior wall of the canal. Diffuse external otitis may cause a similar condition. But the most common cause is chronic suppurative inflammation of the middle ear. The middle ear, according to Dr. Lannois¹, is a closed antiseptic cavity. This was proven by a number of experiments conducted by him on dogs and rabbits, where the brain and the superior wall of the tympanum were removed and cultures made of the mucus of the middle ear in ordinary bouillon, and the results were negative. Into this antiseptic cavity microbes make their way most commonly by direct extension of the disease by way of the Eustachian tube from the throat, or, according to Merritt², through the circulation and stapes,

*Read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, Chicago, April, 1898.

occurring in the capillaries of the mucosa of the middle ear, producing an abscess which ruptures into the cavity. Taking it for granted, then, that the large majority of cases of mastoiditis are the direct result of chronic purulent otitis media, a condition which is so frequent, why is not mastoiditis produced in proportion to this frequency? Dr. Forus, of Madrid, asked this question in an aural communication to the first Spanish Oto-Rhino-Laryngological Congress, and has undertaken to answer it from an anatomical standpoint. As the result of his observations on fresh temporal bones, he has come to the conclusion that the process is due to the anatomical disposition of this region, which is quite different from the description given of it by recognized authorities. He says the tympanic cavity is not an exclusive cavity. This cavity, which, during embryonic foetal life, is filled with a gelatinous conjunctival tissue, is emptied soon after birth; but the process of reabsorption gives rise to various fibro-mucous folds. The mucosa consists of a thin fibrous tunica propria which in places resembles the reticulum of adenoid tissue and includes leucocytes. According to Piersol³, connected with the trabeculæ of the mucosa, peculiar oval bodies are occasionally encountered, which are composed of an axial band and concentric lamellæ of connective tissue; these bodies are normal, but probably not constant constituents of the middle ear. These fibro-mucous folds have been partially described by some by the name of ligaments, but, according to Forus, are nothing more or less than a species of epithelium which covers and protects all and each of the structures within the tympanum. The process of reabsorption referred to gives origin to a system of cavities which divide the tympanic cavity into various compartments. Of these, he says, there are two of great anatomico-pathological importance, namely, the antero-inferior and the postero-superior. Blake and Bryant, of Boston, give similar divisions, and Dench⁴, in his work on "Diseases of the Ear," says, that "the horizontal folds may completely shut off the vault of the tympanum from the atrium." Forus calls the antero-inferior compartment the tubal compartment of the tympanum, and the postero-superior the atico-mastoid compartment. In describing this septum he says: "The septum which separates these compartments, and which encloses in its thickness the chain of ossicles, originates above the Eustachian tube and extends along its anterior part in the form of a tent from the external to the internal wall of the tympanic cavity. At the external surface it surrounds the anterior muscle of the malleus, the existence of which I have been enabled to prove on the cadaver, although none of the modern anatomists make mention of said muscle.

Now, from this point, which is the anterior-external limit, it runs towards the internal wall, protecting the chorda tympani from where it leaves the anterior pocket of von Troeltsch, forming a very acute angle with the tendon of the referred anterior muscle of the malleus. The membranous expansion before reaching the malleus receives the reflex tendon of the internal muscle of the same, and from this point it gives off various expansions. Some, the internal, go to form all those ligaments which unite the hammer and its neck to the immediate regions, and which have been described by some anatomists. Another continues up to the long process of the incus along the postero-internal portion, constituting a sort of diaphragm, which has been described by Urbantschitsch, and which reaches the posterior part of the promontory, above the round window, continuing along the stapes, the latter being surrounded by it up to its base and extends up to the posterior wall to protect the tendon of the stapedius muscle. Other posterior expansions give rise to the posterior ligaments of the incus, and other superior ones to the suspensory ligaments of the ossicular chain."

In this way the tympanic cavity, as we have seen, is completely divided into two great compartments, and other smaller ones. The antero-inferior compartment, comprising anteriorly the Eustachian tube, through which it is continuous with the rhino-pharyngeal cavity, and comprising that portion of the tympanic cavity, which is in relation with the tympanum proper, and is limited posteriorly by the inferior portion of the posterior wall of the tympanic cavity, and by the septum already mentioned. It then has in its posterior cavity the opening for the round window, and as a proximal limit we have the oval window enclosed in the thickness of the referred septum. All these constitute the antero-inferior chamber.

Above the septum already described is the other compartment, made up of the attic, antrum and mastoid cells.

He says that after due deliberation he believes that this is a normal division of the tympanic cavity, and serves to explain various facts, namely, that the otitis which we call catarrhal is not pan-otitic, but otitis of the tubal chamber; that is, that as we consider some otitis as being limited to Prussack's pocket, or pouch, we should likewise bear in mind that all the catarrhal otitis, by tubal infection, remain in their propagation, limited to the antero-inferior or tubal chamber, and that they require some time before destruction of the septum described permits the process to invade the mastoid region.

By experiments on the fresh cadaver he proved the truth of his statements. He attached the canula of an irrigator to the Eustachian

tube, after removing the superior wall of the mastoid antrum, and injected water, which did not flow out when the level of the fluid was in favor of the irrigator. Allowing the deposit to ascend to four or six centimeters, the water did not flow out, although its level made one suppose that the fluid most likely had passed into the mastoid region. Then, to assure himself that there was no tubal obstruction, he made a paracentesis, when the fluid was seen to make its exit with abundance through the tympanic wound. Shortly afterwards, when the external auditory canal was tamponed, the water did not come out through the mastoid region; but on lifting the vessel still higher he observed that when it was 24, 26, and in one instance 30 centimeters above the level of the water over preparation, the septum described ruptured, and then the water made its exit in an abundant stream through the mastoid antrum, as occurred before through the external auditory canal.

In judging the true merits of this experiment, he truly says, we must not lose sight of the fact of the loss of resistance which takes place in the organic tissues after death.

These anatomical observations are certainly valuable; as to the theory advanced, that it is due to them that mastoiditis is rare in relation with cases of suppurative otitis, only careful observation of such cases will prove. But it is indeed curious that from the intimate relations which exist between the mastoid cells and the tympanum, the latter cavity may be the seat of a purulent inflammation for years without producing a similar condition within the mastoid.

Passing to the pathology of mastoiditis, we note that a chronic purulent otitis media causes certain changes in the mastoid; these changes may be of a hypertrophic or a degenerative character. In the former we have an increase in the vascularity of the parts, resulting in the thickening of the membrane lining the cells. These changes continuing lead to a deposit of new osseous tissue, which in the most marked cases, converts the entire process into a mass of compact bone of ivory-like consistence, and obliterates the cells completely. Where the changes are of a degenerative nature a local necrosis generally results. If this affects the large area, a sequestrum is formed which is either exfoliated spontaneously or demands operative measures for its removal. If the destruction takes place over but a limited area the disintegrated tissue is discharged as pus; when moderate in amount, and a free exit is afforded through the external auditory canal, the copious discharge from the canal may be the sole evidence of the involvement of the mastoid cells. If, however, drainage is not free, symptoms of pus retention are mani-

fested. The results that may be produced by the presence of this infectious material within the bony cavity are a copious otorrhea as mentioned, and, if drainage through the canal is impeded, the fluid seeking an exit evacuates itself spontaneously where the least resistance is offered. The evacuation may take place through the external mastoid cortex, either behind the ear or in the external meatus, or through the cortex in the digastric fossa; it may even take place through the roof of the antrum or of the tympanic vault into the middle cranial fossa, or it may empty into the posterior cranial fossa by way of the groove lodging the lateral sinus. The invasion of the cranial cavity leads to inflammation of the meninges, which may be diffused or circumscribed, in the former leading to leptomeningitis, while in the latter an epidural abscess is formed, the pathology of which it is not necessary to dwell upon.

The intracranial contents may be involved without internal rupture, the free anastomosis between the blood vessels of the dura and the pericranium furnishes an avenue through which the infectious material may be carried to them. And, as the result, we may have in addition to the two conditions already mentioned a thrombosis of the lateral sinus, or an abscess within the brain substance. Where rupture takes place upon the external surface of the mastoid, it is commonly supposed that all serious danger of involvement of the intracranial contents is at an end, although the abscess may not be immediately evacuated by incision of the overlying soft parts. Dench points out the fact that this is an error, particularly in the case of children. Here, as we know, the sutural lines between the various portions of the temporal bone are not completely ossified, and when the external surface of the temporal bone is bathed in pus, infection through the sutural line or through the substance of the squama itself, is by no means impossible. Dench⁵ has reported one case of this character in a child, and one in an adult, while several other instances may be found in otological literature. Again, because of non-development of the parts in children we may have pus beneath the integument in the post-aural region, without perforation through the cortex. In these young subjects a collection of fluid within the tympanic vaults frequently makes its way along the superior wall of the canal, gaining exit from the cavity through the Rivinian segment by dissecting the soft parts away from the bone in this location. Perforation of the cortex on the anterior surface—that is, through the posterior wall of the bony meatus—may occasionally occur. Spontaneous evacuation here is probably due to the fact that in the particular case the external cortex is thicker, while along the pos-

terior aspect of the canal the pneumatic cavities are well developed and thin-walled. Again, we must remember that the mastoid cells may extend as high as within half an inch of the temporo-parietal suture. Anteriorly the pneumatic cells extend forward over the external auditory canal. Hyrtl, according to the authority of Schwartze, found three skulls (among three hundred which he examined for this purpose) in which the pneumatic cells extended even into the occipital bone, and Buck⁶ reports a case in which there was a large abscess in the body of the mastoid process where in trephining the skull he found pus between the outer and inner tables of the occipital bone, a short distance back of the temporo-occipital suture, and in the light of Hyrtl's discovery it was equally probable that pus found at this remote spot was really lying in pneumatic spaces which stood in direct communication with those immediately surrounding the abscess. Now, as to the conclusions to be drawn from these observations of the etiology and pathology of mastoiditis:

1. As previously stated, the large percentage of cases of mastoiditis are the direct result of chronic purulent otitis media, but that they are not produced in proportion to the frequency of the latter and therefore there must be some existent condition or conditions that exert an influence in this direction.

2. That in the light of anatomical observation the pathological conditions are not necessarily the same in any two cases, and that such observations tend to more firmly establish the fact that an inflammation of the mastoid process is a condition fraught with great danger to life.

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Purulent Otitis Media—LUDEWIG—*Proceedings German Society of Surgery, Berlin*, April 13, 1898.

Dr. Ludewig spoke on this subject and exhibited many ossicles removed in this condition. He stated that the radical treatment required their removal and that it would be well to practice this oftener.

SCHEPPEGRELL.

DISEASES OF THE MIDDLE EAR.

ROBERT M. LAPSLEY, M.D.

Professor of Ophthalmology and Otology, Keokuk Medical College, Keokuk, Iowa.
(Written for THE LARYNGOSCOPE from Vienna, Austria.)

The subject I have taken might amuse some of the members of our profession who have given years of study to the many pathological conditions embraced in this somewhat intricate subject, but I am taking advantage of the above title to make a few remarks on what I have observed here in Europe. I had the pleasure for some time of attending the various otological and rhinological clinics of London, and it seems to me the value of the clinics of our world's metropolis is somewhat underestimated. Clinical material is certainly abundant, and in many hospitals too much so for the size of hospital and staff. There are a number of good ear clinics in London, and considerable pains is taken in their management.

I was impressed more in London than any place else I have been with the great importance of adenoid vegetations in the naso-pharynx as a cause of middle-ear disease.

For some years this has been recognized as one of the chief causes of middle-ear disease in children, but an attendance at the Central London Throat Hospital made me believe that most children with middle-ear disease, in London, have adenoids. The method of dealing with these cases in large numbers has reached quite a degree of perfection there. On Friday afternoons, often dozens of cases are operated on, and all under an anæsthetic. I have followed a method widely used in America of placing the patient on a table with head over the end so the blood does not run down the throat, and, of course, the patient under influence of an anæsthetic, generally chloroform. Here the patient is seated in front of operator, given nitrous oxide gas, operated on by curette, forceps and finger nails, and in an extremely short time all is finished and the patient taken out. The method seems a good one in large numbers of cases, but in private practice is hardly necessary. The influence of these operations is naturally quite beneficial in most of the cases of the middle-ear disease, and it is quite likely it will materially affect the amount of ear disease in the generation now growing to manhood.

Dr. Dundas Grant makes considerable use of the injections of paroline in chronic middle-ear catarrhs; and, by the way, he is

working in this large clinic with an enthusiasm and energy that is not only beneficial to his patients, but is rapidly making him one of the most popular of otologists.

The Golden Square Throat Hospital has also a large clinic—and the Royal Ear Hospital, while not so large, has a clinic in which much good work is done. For some weeks recently I have been attending the ear clinics of the eminent otologists of Vienna.

The name of Professor Politzer is known, probably, not only to all the medical profession, but even to most students of medicine. He is still working earnestly in the large clinic he controls at the Allgemeines Krankenhaus, and is doing much toward elucidating the many unsolved problems in otology.

One feels while listening to his lectures and watching his work that he is getting the most advanced thought.

This seems a great center of otology. Professor Politzer has many cases of suppuration of the middle ear, both acute and chronic, and it is interesting to note that he does not diagnose his ear cases until the ear is clean, and in many of the cases not until Siegel's otoscope has been used to demonstrate a cicatrix or a perforation. This seems very simple, but I have noticed the carelessness of so many otologists in these small but important matters. He is careful in chronic suppuration to cleanse the ear thoroughly, and to remove any cholesteatoma, if possible. In cases where a mastoid operation is found necessary, he usually does what he calls the radical operation; that is chiseling into the antrum and then removing the posterior wall of the canal. The Stacke operation, where only the outer wall of the attic is removed, and the antrum opened from the canal is seldom done. I mention this distinction because different people have described these operations to me differently.

Professor Politzer makes quite a point in exudative catarrh of performing paracentesis and removing the fluid by means of air douche, Siegel's otoscope, etc.

In chronic middle-ear catarrh he also uses injections of oil to some extent, and also simple inflations, massage and sometimes bougies.

I believe we are indebted to Dr. T. F. Rumbold, of St. Louis, for valuable work in the introduction of intra-tympanic injections of oil in treatment of ear disease, and I am glad to see it used so extensively and recognized as having merit.

Professor Urbantschitsch also conducts an interesting and instructive clinic. He also does the radical mastoid operation in many cases.

In his clinic bougies are used in the treatment of the middle ear and Eustachian tube quite extensively. He also uses electricity for chronic middle-ear catarrh.

I will review the few points I have attempted to give: First, in children with ear disease, adenoids should always be sought for, and, if found, removed: second, in the treatment of exudative catarrh the fluid should be removed from the middle ear; third, in the treatment of chronic catarrh, even in sclerosis, we should attempt the various methods of treatment (unless they seem to do harm) which consists in treatment of the cause, inflations, injections of gases or fluids, use of bougies, massage, electricity and possibly other methods; fourth, in treatment of suppuration as near antisepsis as possible should be carried out, and in proper cases operations must be resorted to. It must be remembered though that radical operations of the mastoid are accompanied by some danger, and should only be done where there is some positive indication. At best the after-treatment is prolonged, and while many operators say the operation is now rather simple, I have seen quite a number of cases of facial paralysis following operations by our most eminent men, and that should be sufficient, if there were no other reasons, to make one pause before doing such an operation, and see if it is really necessary.

Traumatic Rupture of the Tympanic Membrane—WM. BRAISLIN

—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

Seven cases are reported. The author's conclusions are:

1. Drum may be ruptured without direct impact of foreign body upon the membrane; *i. e.*, by the expansive force of air condensed within the canal.
2. Pre-existing middle-ear disease predisposes.
3. Some can be recognized by the present condition of opposite ear.
4. Prognosis of uncomplicated perforation was good.
5. With severe tinnitus prognosis should be guarded, as same may result from labyrinthine concussion.
6. Treatment till perforation is healed.
7. Subsequent treatment to middle ear is beneficial.

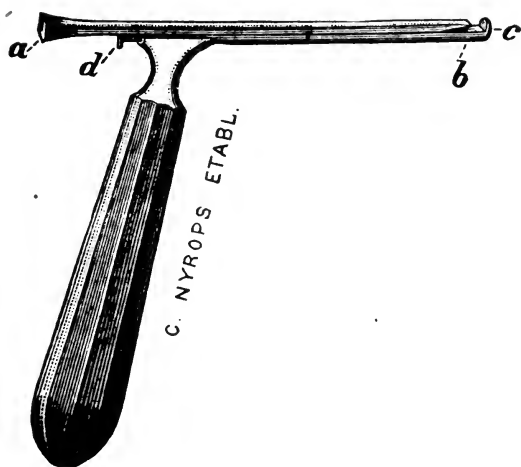
LEDERMAN.

NEW INSTRUMENTS.

A PROBE-CHISEL FOR THE EAR.

BY GOTTLIEB KICER, M.D., COPENHAGEN, DENMARK.

The accompanying illustration presents a new instrument which I have devised for bone operations in the ear. It consists of a stout handle supporting a shaft, terminating in a right-angled flange (*b c*) at the cutting end, and carrying a chisel (*a*) with a horizontal cutting edge.



Probe-Chisel, one-half natural size.

The shaft or probe (*b*) is 9.7 cm. long, the perpendicular flange (*c*) measures 0.4 cm. In the upper surface of the shaft (*b*) an angular groove is cut; corresponding with this the under surface of the chisel is shaped to fit into this groove, thus preventing any upward or lateral motion of the chisel when operating. Attached to the chisel is a small stop (*d*), so adjusted that the cutting edge of the chisel may have full play, and when driven home just touches the upright flange (*c*). The chisel is 11.7 cm. long, the cutting-

edge considerably bevelled, so that the chiseled portion of bone remains in the triangular space formed by the bevel-edge and the flange-stop.

The first instrument which I constructed consisted simply of two planes gliding over each other, the upper one being the chisel. The chisel was held in place by two bands. The tongue-and-groove principle has been recently added, and is largely responsible for the perfect execution of the instrument.

I have tried the probe-chisel on a series of cadavers; its mechanism is rapid and safe, and there is no danger of splintering the bone.

Dr. Schmiegelow has been pleased to try it, and after frequent use in operative work, has expressed his thorough satisfaction with the instrument.

The instrument is especially adapted for removing the outer wall of the atticus tympanicus and to expose the aditus ad antrum, which is so frequently involved in caries of the ossicles.

The danger of injuring the facial nerve, which by its course over and behind the foramen ovale, and separated from the aditus ad antrum only by a bony partition as thin as paper, is so greatly exposed, is avoided by the perpendicular flange (*c*) which forms the supporting buffer for the chisel.

A Laryngendoscopic Mirror—MERMOD—*Revue Hebd. de Laryng., d'Otol. et de Rhin.*, May 21, 1898.

The ordinary method of laryngoscopy gives only an incomplete image of the reality. In order to complete the laryngoscope, the author has added a second mirror, which is introduced into the interior of the larynx, an instrument which he calls the "laryngendoscope."

By the assistance of this instrument, the author has seen pathologic conditions which could not be observed by the usual method.

(The idea of examining the larynx by means of two mirrors is not a new one, but it is only in rare cases that it is feasible.—ED.)

SCHEPPEGRELL.

A SUBSTITUTE FOR A FOUNTAIN CUSPIDOR.

BY FRANK C. TODD, M.D., MINNEAPOLIS, MINN.

Being interested in the "Improved Rhinological Furniture," described by Dr. Pynchon in the March LARYNGOSCOPE, I desire to add another suggestion along the same lines.

Anything which adds to the convenience of an office, or is conducive to cleanliness, is of value, and the devices described by the doctor are certainly of this character. The cuspidor is handy and inexpensive and would be a good substitute for the fountain cuspidor where water connections are not at hand. As the doctor suggests, many rhinologists do not have a fountain cuspidor because of its great expense, but any device which simply *collects* blood and sputa is only to be used because something cleaner and more hygienic cannot be had, and should be frequently emptied, otherwise it would be offensive to most patients.



Fig. 1.

The device which I have used for several years answers the requirements as well as a fountain cuspidor and is very inexpensive. I refer to a small iron, porcelain-lined wash-bowl connected with the sewer and having one faucet, which is turned on when in use, so that blood or sputa is washed away as fast as it may be deposited. It is not only cheap, but clean and large enough to catch the matter which it is intended for, which cannot be said of the ordinary cuspidor.

The price of the bowl shown in the cut is two dollars, to which must be added the small expense of plumbing.

CORRESPONDENCE.

Editors of THE LARYNGOSCOPE:

In the report of the meeting of the Section of Laryngology and Rhinology, New York Academy of Medicine, published in the August LARYNGOSCOPE, Dr. Newcomb states that what is known as Gleason's operation should be known as Watson's operation, because "Dr. Watson had told him that he had illustrated the operation before one of the societies before Dr. Gleason had published his paper."

As far as I know Dr. Watson NEVER illustrated MY operation except that he recently told me that he had described it and that of Ash to some students at the Polyclinic and explained to them how both these operations accomplished the same object as his own.

Because both operations probably are derived from an older operation, at one time extensively practiced in Philadelphia and described in most of the books on Diseases of the Nose including my own, there is a superficial resemblance that has induced Dr. Watson to imagine that the operations are identical. This superficial resemblance disappears as soon as the mechanics underlying successful operations for deflection of the nasal septum are considered.

Watson makes a straight, beveled incision "just at the crest of the deviation" in horizontal deviations, "cuts out" any vertical deviation that may be present, and pushes the upper flap over the lower so that the beveled edges hook over each other. My operation consists of a U-shaped incision not IN but AROUND the deviation. The tongue-shaped flap thus formed is pushed through the button-hole in the septum that it covers.

When a vertical deviation is "cut out" Watson's incision becomes L or 1 shaped and consequently resembles the Ash operation: so that it is presumable that only when the straight beveled incision alone is employed does he find a fancied resemblance to my operation. This resemblance is only apparent, because the position of Watson's incision being at the *crest* of the deviation, it is necessary to make a bevel as he states in his paper, in order that there may be any overlapping. When the incision is made UNDERNEATH instead of IN the

deviation, this difficulty disappears and there is abundant overlapping without any necessity for beveling, because all of the redundancy is then in the upper flap and is utilized to the greatest advantage as a means of support tending to prevent a return to the original position when the upper flap has been hooked over the lower. Hence my incision because of its *position* and *shape* is vastly superior to that of Watson inasmuch as it renders it possible to utilize all septal redundancy as a means of support not only in a vertical direction but horizontally as well.

Watson's operation is also extremely faulty inasmuch as it makes no provision for counteracting the resiliency of the septum except by the introduction of a pin which Watson states should remain in position for three or four weeks.

In my operation it will be observed, resiliency is only active at the neck of a comparatively long narrow flap, and hence has to overcome considerable leverage before the base or lower edge of the flap can be forced back through the hole in the septum. If the resiliency is greater, as it generally is, than just sufficient to hold the overlapping edges in contact, it can be reduced by bending the neck of the flap sharply toward the formerly unobstructed nostril. In my later operations, I have been careful to do this thoroughly and also to extend the U-shaped incision as high up on the septum as possible, sometimes using a knife in addition to the saw for the purpose of lengthening separately each vertical crus of the U. It is because of the great PRACTICAL difference in our operations that Dr. Watson finds it necessary for his patients to wear a pin for three or four weeks; while I presume that all but about 20 per cent of those operated upon according to my method are able to secure success without any tedious after treatment by pin or tube. I have written in this disparaging manner of Watson's operation in order to demonstrate that it is not *identical* with mine and would have more to say on this subject if I did not feel that my point has been sufficiently proven. I trust that I shall hear no more assertions such as are attributed to Dr. Watson by Dr. Newcomb to whom I am indebted for calling public attention to the matter.

Watson's operation is described in the N. Y. Med. Journal, Oct. 3, 1896, mine in the LARYNGOSCOPE, Nov. 1896.

E. B. GLEASON.

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EDITORIAL.

MARQUETTE AS A HAY-FEVER RESORT.

The choice of Marquette, Michigan, for the meeting of the Western Hay-Fever Association this year calls attention to that locality as a resort for this class of sufferers. The writer has visited both that place and Colorado points this season, and has made investigations of their relative merits in the interest of sufferers from diseases of the respiratory organs.

At this time, when hay-fever victims are preparing for their annual pilgrimage to regions more or less immune, it will be a matter of especial interest to learn of any point that offers advantages superior

to those of the best known resorts. Bethlehem, in the White Mountains of New Hampshire, has been for many years the Mecca of this class of sufferers, but within the past few years the increase of population has brought increased travel on dusty roads, a multiplication of flowering plants to distribute noxious pollen, and has deprived the hotels of those characteristics that were most conducive to the comfort of their August guests.

For the reasons cited the most prominent members of the United States Hay-Fever Association have felt compelled to seek some other more comfortable refuge during the hay-fever season.

Colorado has been recommended as a region of immunity from this distressing disease, but it does not possess the ideal qualifications. The altitude, varying from a mile to nearly a mile and a half as one travels from Denver to Manitou Springs, tends to aggravate nervous disorders. The rays of the sun are so exceedingly bright that persons who never need to wear colored glasses at the lower levels are forced to protect their eyes here. The soil is dry and sandy and reflects the sunlight uncomfortably. The rains percolate quickly through the surface-soil, leaving a dust-laden top a few hours after a shower, and the foot-hills abound in flowering plants.

Dr. B. B. Creighton, of Manitou Springs, does not claim immunity from hay fever for that region. Moreover, the writer finds that his patients are prone to take cold even in Colorado, although not as readily as in the vicinity of Chicago.

We have improved excellent opportunities to compare the climatic conditions of Colorado Springs, Chicago and Marquette during the present season. We will speak at this time with reference to hay-fever sufferers, since they must be at their resorts by the 15th or 20th of August in order to escape their annual attacks. Nature has favored Marquette in several important particulars. The city is situated on the south shore of Lake Superior and has an altitude of about 600 feet. It is built upon a series of hills overlooking Iron Bay, and only a short distance inland we find ourselves in the fragrance-laden atmosphere of the pine forest.

The prevailing winds are from the lake, a fact of the utmost importance to the hay-fever sufferers, since they are free from dust and pollen. But there is one phenomenon which no one in Marquette could explain. The signal service reports show a prevailing dry atmosphere, notwithstanding the fact that the winds are from over the water. For this reason patients do not take cold easily, and one's power of resistance to cold appears to be increased. With a low temperature one does not feel the cold uncomfortably.

The temperature of Marquette from June to November averages lower than that of Buffalo, Cleveland, Detroit, Chicago, Milwaukee and even Mackinaw and Duluth. At 11 o'clock in the morning the writer was comfortable in the cool breezes of Marquette where the temperature was 63° F., while the thermometer in Chicago registered 86° at the same hour. The air is kept cool by the breezes from the lake, the water of which remains all the summer so cold that bathing in the surf is out of the question. However, the winds do not attain to the velocity experienced by other lake towns, for it is below that recorded in all of the cities mentioned, averaging 8.5 miles per hour.

Dr. A. F. McKay says: "During a residence of eight years on this shore (Marquette) I never knew of a case of hay fever that was not almost immediately relieved, and most cases were permanently cured. Asthma, bronchitis, pneumonia, pleurisy and catarrh are of very rare occurrence as acute affections, and when in a chronic state are almost invariably benefitted by coming into this region." These statements have been verified to the writer independently by Drs. James H. Dawson and A. Kline Thiell, of the same city, to whom we are indebted for other facts here presented. The drinking water is obtained from the lake, which has very precipitous shores and a great depth. It is pumped by the Holly system to the highest points in the city, under an average pressure of eighty-five pounds to the square inch. Monthly analyses of this water, made by the State chemist, demonstrate it to be of exceptional purity. Indeed, it takes the place of distilled water for purposes of the chemical laboratory.

There are several other features characteristic of Marquette, about which health seekers will be glad to be informed. This place is not an old, professional resort for health or pleasure; therefore it is not spoiled. It is young, fresh and inviting. You are not beset on every hand by "barkers" for hacks and hotels, and your progress is not hampered by hungry faces and outstretched hands itching for tickling tips. There are boulevards for driving and cycling; pleasure steamers for lake excursions; electric cars to Presque Isle, a charming park of rocks and tanglewood in all their primeval wildness and beauty; stately churches of native brown stone; excellent hotels; a modern opera house, and freedom from the festive mosquito.

Hay-fever sufferers will appreciate the fact that, aside from the convenient railroad facilities that make this little city easily accessible, they may reach it by lake steamers from Chicago, Buffalo and intermediate points, and avoid the dust, gas and smoke that are provocative of their attacks.

S. S. BISHOP.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Chronic Nasal Catarrh—HENRY G. OHLS—*Jour. Am. Med. Assn.*,
June 18, 1898.

Nasal catarrh, in a large majority of cases, depends upon local causes and is amenable to local treatment. Atrophic degeneration may succeed a neglected hypertrophic condition. The indications are to restore the normal contour of the nares, as more or less structural deformity is generally found, and the efficient means to that end are necessarily surgical. PYNCHON. (BISHOP.)

Micro-Organisms Found in Ozena—DE SIMONE—*Am. Med. Surg. Bulletin*, Vol. xii, No. 11.

This observer is of the opinion that there must be an individual predisposition to the disease, to which micro-organisms act as a contributing cause. He has found the following micro-organisms constantly in ozena secretions: 1. *Bacillus mucosus*. 2. *Bacillus pseudo-diphtheritic*. 3. Frankel's *diplococcus lanceolatus*. 4. *Staphylococcus pyogenes aureus* and *albus*.

Inoculation of the human nasal mucosa was followed by profuse secretion, swelling and slight redness. All of these disappearing after a few days. LEDERMAN.

Hay Fever—WM. H. WEAVER, Chicago—*Jour. Am. Med. Assn.*,
June 4, 1898.

The importance of the uric acid diathesis as a caustic element is recognized, hence the importance of internal medication, though not to the neglect of correcting intranasal obstructions. Anterior soft hypertrophies of the nasal septum, and posterior hypertrophies of the inferior turbinal, are mentioned as common exciting causes. The object of local or surgical treatment is to perfect the ventilation and drainage of the nose, and thus cause it to conform as nearly as possible to the ideal standard. PYNCHON. (BISHOP.)

Diseases of the Upper Air Passages—ARMSTRONG—*Med. et Surg. Reporter*, Vol. lxxviii, No. 4.

According to the author's observation, a very large proportion of these diseases are caused by adenoid vegetations. Surgical treatment is emphatically recommended. In atrophic rhinitis hot water as a nasal douche has given very satisfactory results. It restores lost nerve power and stimulates the circulation. He recommends the following as a suitable application:

R—Powdered thiol gr. x
 Menthol gr. v
 Liq. blancolin (paraffin liquid) ʒi
 M. S.—Apply three or four times daily with oil atomizer.

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

Studies of Some Facial Bones—MATTHEW H. CRYER, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, April 2, 1898.

Many of our text-books contain erroneous descriptions of the anatomy of the nasal chambers. With the use of thirty-four illustrations there are shown a variety of abnormalities which are frequently met with, proving that but limited reliance can be placed upon text-book anatomy of these parts. PYNCHON. (BISHOP.)

Pathologic Conditions of the Pharynx and Contiguous Structures, During Early Childhood, Prime Factors in the Etiology of Malformed Maxillæ, Irregular Teeth, Etc.—WM. A. MILLS—*Jour. Am. Med. Assn.*, April 23, 1898.

The writer emphasizes the importance of obstructive nasal conditions in childhood as being causative of irregular teeth and external deformity of the nose. Prompt correction of the nasal trouble is recommended, as well as removal of enlarged tonsils when found. PYNCHON. (BISHOP.)

Operation for Primary Epithelioma of Uvula—WALKER DOW-NIE—*Glasgow Med. Journal*, February, 1898.

The growth occurred in a male fifty-six years old. He complained of difficulty in swallowing for two months. Pain, together with impaired breathing, were annoying symptoms. Examination showed the uvula to be enlarged and ulcerated. It bled on being touched. No glandular enlargements were observed. Cocaine was applied and the diseased portion was removed with scissors. After operation small quantity of fluid enters nose on swallowing. No other tissue was involved. LEDERMAN.

Anterior Pillars of the Fauces; Their Abnormality, Etiology and Treatment—GEO. T. CARPENTER—*Jour. Am. Med. Assn.*, April 9, 1898.

The writer frequently observes a chronically diseased condition of the anterior pillars. The patients do not complain of sore throat, but of a fetid breath, and sometimes of a disagreeable taste in the mouth. The tonsils exude foul-smelling secretions.

PYNCHON. (BISHOP.)

Treatment of Acute Tonsillitis—*Med. Summary*, Vol. xx, No. 4.

Thorough cleansing of the tonsils with an antiseptic solution (1 to 3000 sublimate) and finally paint the tonsil with an eight per cent solution of argentic nitrate. Kramer employs parenchymatous injections of a two or three per cent carbolic acid solution, from seven to fifteen minims being injected.

LEDERMAN.

The Treatment of Chronic Inflammation of the Tonsils—J. A. ELLEGOOD, Wilmington, Del.—*Jour. Am. Med. Assn.*, March 12, 1898.

Chronic tonsillar enlargement is often so slight as to be hardly appreciable, and the morbid process of so low a grade as to present, except at occasional intervals, but few of the usual features of inflammation. But little, at best, can be expected from constitutional treatment, as associated constitutional defects are rather the result than the cause of the tonsillar trouble. Usually the treatment is surgical. Tonsillotomy had better be done in the morning, so that as long a time as possible will elapse before the patient assumes the recumbent posture. The use of a general anæsthetic is seldom necessary, and its use causes more distress than does the pain of the operation without anæsthesia.

PYNCHON. (BISHOP.)

Practical vs. Theoretical Tonsillotomy—J. HOMER COULTER—*Jour. Am. Med. Assn.*, February 26, 1898.

Owing to adhesions to the pillars, the tonsil may often be hypertrophied and yet not protrude beyond the pillars, being, in fact, submerged. Pathologic tonsils imply pathologic complications elsewhere in the system. A partial ablation may often do more harm than good. The indication is for total removal of all diseased or hypertrophied tonsillar tissue. By such radical procedure the varying local manifestations, as recurrent attacks of tonsillitis, chronic pharyngitis, post-nasal and Eustachian tubal catarrh, cough or impaired phonation, dependent upon the presence of the chronically diseased tonsil, are corrected and the general health almost invariably improved. In operating upon the condition of tonsil which the paper describes, and in order to secure a thorough destruction of all diseased follicular tissue, the writer advocates tonsillotomy by "electro-cautery dissection."

PYNCHON. (BISHOP.)

Peritonitis: Its Etiology and Treatment—KATE W. BALDWIN, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, March 12, 1898.

Quinsy is without doubt of bacterial origin. For several years the writer has treated this condition by applications with a cotton swab of spirit of turpentine in full strength, or diluted fifty per cent with compound spirit of lavender, and applied every one to three hours. Accompanying general treatment has been given as indicated; quinsy has thus been frequently aborted or the formation of pus prevented. PYNCHON. (BISHOP.)

What Operation Can Do for Cancer of the Tongue—A. T. BUTLIN—*British Med. Jour.*, *Philadelphia Med. Jour.*, February 28, 1898.

Dr. A. T. Butlin's experience with carcinoma of the tongue includes 102 cases, 53 of which occurred in his hospital and 149 in his private practice. Of the former, 16 remained free from recurrence during the three years' limit, and of the latter, 26. Removal of the entire tongue is unnecessary in every case, and should not be considered a justifiable procedure until it can be proved that a large number of persons suffering from recurrence in the mouth would have been preserved from such recurrence had the tongue been removed.

This last proposition is not supported by the author's statistics. His method consists of removing with the carcinoma three-fourths of an inch of the apparently healthy surrounding tissue. The prospects of cure have greatly increased within recent years, as is shown by Barker's statistics, in which there was only 5 per cent of cures (according to the three years' limit) in a total of 170 patients, while among Butlin's 102 cases there were 20 cures.

Inoculation of the lymphatic glands may occur so soon after the appearance of the primary lesion of the tongue that it is safe to say that, when the operation on the tongue is performed, the lymphatic glands are already enlarged. The author is strongly in favor of searching for the lymphatic glands, even though they are too small to be palpated through the skin. As a routine practice, he executes this step in the treatment four weeks after the operation upon the tongue, dissecting back two large triangular flaps, in order to expose the submaxillary, carotid, submental and parotid glands, all of which may be invaded.

It has been shown by experience that the lymphatic glands frequently become involved when no recurrence takes place in the mouth. This proposed method of treatment offers the best prospects for the patient's complete recovery. SCHEPPEGRELL.

III. ACCESSORY SINUSES.

Chronic Suppurative Ethmoiditis—LEWIS I. SOMERS, Philadelphia—*Jour. Am. Med. Assn.*, June 4, 1898.

Chronic ethmoiditis is not infrequent cause of nasal discharge, and may be associated with a diseased condition of the other accessory cavities. Owing to the proximity to the cranial cavity, danger is always imminent, and is greatly increased by delay in treatment. By examination the middle turbinal will be found to be hypertrophied. The course of the disease is generally slow, and it may continue for years before being recognized.

PYNCHON. (BISHOP.)

A Study of the Anatomy of the Maxillary Sinus, with Special Reference to Points of Practical Interest—GEO. E. SHAMBAUGH, Chicago—*The Chicago Medical Recorder*, May, 1898.

The text is illustrated by eight well-executed plates. The subject of accessory sinuses occupies the central point of interest in rhinology to-day. The anatomy of these cavities has not been sufficiently studied. Variations in their formation are frequently present. The great variety and uncertainty of the subjective symptoms which disease of the antrua may produce, make a positive diagnosis possible only when based on the results of a most careful objective examination. The treatment must be chiefly surgical, and demands for the safe conduction an accurate knowledge of the anatomy of the part.

PYNCHON. (BISHOP.)

IV. LARYNX AND TRACHEA.

Treatment of Laryngeal Phthisis—T. M. MURRAY—*N. Y. Medical Journal*, Vol. 67, No. 996.

After reviewing the modern literature upon this serious and unfavorable manifestation, the author concludes that the internal administration of creosote is an essential element in the treatment of tuberculosis. He believes that the curette and lactic acid should be placed at the head of all local treatment. Then come the phenol preparations (applications of sulphorcinat of phenol, 50 per cent solutions, and parachlor-phenol 10 to 20 per cent solutions). Laryngotomy and similar operations should only be employed in exceptional cases. Euzipnol has been found a valuable auxiliary to the curette and lactic acid.

LEDERMAN.

Ichthyol in Acute Laryngitis—CIEGLEWICZ — *Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

A cold solution of a two per cent ichthyol is highly recommended by the author to be used in an atomizer.

LEDERMAN.

The Differential Diagnosis of Ulcerative Diseases of the Pharynx and Larynx—JOS. S. GIBBS—*Medicine*, Jan., 1898.

In order to more clearly recognize the dissimilarity of the four ulcerative processes found in the larynx and pharynx, Dr. Jos. S. Gibb gives the following table, in which the individual and characteristic symptoms are placed side by side :

ULCERATION OF LARYNX.

SYPHILIS.	CARCINOMA.	TUBERCULOSIS.	LUPUS.
Pain usually slight.	Pain constant, lancinating.	Pain severe on deglutition.	No pain.
Attacks any portion of larynx, and ulcerates rapidly.	Attacks any portion of larynx, and ulcerates more slowly than syphilis.	The favorite site is in the interarytenoid space or the base of arytenoid cartilages; ulcerates slowly.	Attacks any portion; ulcerates very slowly.
Is rarely seen in the stage of induration, the first evidence being a clear-cut, deep ulcer.	The first appearance is that of a new growth occupying the laryngeal cavity; no clear-cut ulcer.	Usually the first appearance is small spots of induration, which is rapidly followed by great edema.	Nodular masses.
Some induration around the ulcer, but usually very little edema.	The growth fills or encroaches on the laryngeal cavity.	Great edema of arytenoids.	Little or no edema.
Ulcer extends deeply, often involving cartilage.	Growth extends in all directions, involving all tissues in its course.	Ulcer extends laterally, but not deeply.	Very slow in progress; ulcer rarely observed.
Surface of ulcer covered by muco-purulent secretion and necrosed tissue.	Surface of growth covered by discharge.	Surface of ulcer covered by thick muco-purulent secretion and agglutinated mucus.	Little or no discharge.
Mucous membrane hyperemic and injected.	Mucous membrane hyperemic.	Mucous membrane pale.	Mucous membrane injected.
Laryngeal stenosis not common until cicatrization occurs.	Laryngeal stenosis quite common.	Laryngeal stenosis rarely occurs.	Slight stenosis.
General health unimpaired.	Early in disease no impairment of general health; later a marked cachexia.	Health impaired previous to laryngeal involvement.	Very slight impairment of general health.
Frequently evidences of syphilitic disease in other tissues.	In primary laryngeal carcinoma, no other involvement until later in the disease.	Previous and coincident pulmonary trouble common.	Frequently cutaneous manifestations.
Rapidly improves under the iodides.	Iodides have no influence on the course of the disease.	Iodides have no influence.	Iodides have no influence.

ULCERATION OF PHARYNX.

SYPHILIS.	CARCINOMA.	TUBERCULOSIS.	LUPUS.
Pain usually slight.	Pain—lancinating, severe, constant, and often excruciating—in many cases referred to ear.	Pain severe—not constant—aggravated by efforts at deglutition or clearing the throat of inspissated mucus; sometimes referred to ear.	Pain slight, if any.
Ulcer clear-cut and punched out. Destruction of tissue great. Appears very early in the course of disease—within two or three weeks.	No clear-cut ulcer. The normal tissue is replaced by morbid growth; ulceration does not occur for two or three months after the appearance of growth.	Ulcer shallow and not clear-cut, shading imperceptibly into the normal tissue; ulceration occurs very early.	Ulceration rarely seen, the process rather being presumed by the absorption of tissue.
A profuse purulent discharge and necrosed tissue cover the surface of ulcer.	Very little discharge covers the growth; when ulceration occurs, the surface is covered by a thin sanious discharge.	The surface of the ulcer is covered by mucopurulent secretion and agglutinated mucus.	Little or no secretion.
The borders of ulcer indurated and hyperemic.	The growth is of stony hardness; an areola surrounds the growth; but no induration until the parts are encroached upon by the growth itself.	There is no areola or induration.	Disease consists of a series of indurated nodules.
Ulcer rapidly destructive and extends deeply.	Quite rapid in its course; extends in all directions.	Erodes slowly and laterally—not deeply.	Exceedingly slow in course.
Ulcer confines itself to pharynx; rarely extends to nasopharynx; never to larynx.	No anatomical boundaries confine the growth—extends in all directions, and attacks all tissues.	Confines itself to mucous membrane of pharynx; extends laterally.	May extend to larynx.
Cicatrices often present.	No cicatrices.	No cicatrices.	Cicatrices numerous.
General condition unimpaired.	Early in the course of the disease the general condition is good; later, however, the health fails rapidly.	General condition poor from the outset, indicating some grave constitutional disease.	General condition very slowly impaired.
Often evidences of specific disease in other organs.	No manifestation of previous disease.	Pulmonary and laryngeal manifestations.	Cutaneous manifestation previous to and coincident with the pharyngeal.
No fever.	No fever.	High fever.	No fever.
Rapidly improves under the iodides.	The disease is uninfluenced by iodides.	Is not influenced by iodides.	Not influenced.
Sputum contains no characteristic morbid product.	Examination of sputum negative.	Tubercle bacilli found in sputum.	Examination of sputum negative.
Microscopic examination of excised piece reveals large numbers of small round cells.	Microscopic examination of growth shows the characteristic cells of the various forms of carcinoma.	Microscopic examination shows the giant cell, tubercle bacilli, and other evidences of tuberculosis.	Microscopic examination very similar to that of tuberculosis.

Remarks Upon the Surgical Treatment of Malignant Diseases of the Larynx—BYRON DELAVAN, New York City—*Jour. Am. Med. Assn.*, March 12, 1898.

The writer gives quite a thorough review of the work done in this line, and notes that the mortality has been reduced from 60 to 19 per cent. The various methods of operating are described. Present indications suggest a more promising future for this class of cases.

PYNCHON. (BISHOP.)

(1) Sarcoma of the Larynx; (2) Sarcoma of the Naso-Pharynx in an Infant—T. H. HALSTEAD—*New York Polyclinic Jour.*, Vol. x, No. 6.

In the first instance, the patient was a male German, fifty-seven years old. He complained of an increasing difficulty in swallowing; first noticed two years ago. Food was arrested at times about the level of the larynx. There was some difficulty in breathing. Deep-seated pain shooting to the right ear was also present.

The laryngoscope showed a rounded, grayish, non-ulcerated tumor, rather rugous on surface, and apparently originating from the right ary-epiglottic fold and posterior plate of the cricoid, partly filling the right pyriform sinus and infringing on the lumen of the larynx, obscuring all view of the right vocal cord. It was the size of a walnut, sessile, not pedunculated.

The tumor was removed under cocaine with the cold snare. A week later none of the growth was seen. In a month, however, the symptoms had again returned, and the tumor had grown to one and a half times its original size. Later tracheotomy was performed, and the patient gradually succumbed. The microscope revealed the growth to be a large round-celled sarcoma.

Case II was a young child, two years of age. When the author saw the case, respiration was labored, and apparently entirely through the mouth. Mucous membrane of the lips dusky, face milky pallor, cyanosis marked, child dull and only partially conscious. At first glance the appearance suggested laryngeal diphtheria.

Examination showed bridge of nose was broadened and flattened; cervical glands on both sides were greatly enlarged and hard; the right nasal chamber was seen to be occluded by a yellowish-gray mass which also presented itself in the oro-pharynx, pushing forward the soft palate and interfering with deglutition and breathing. The growth had appeared rather quickly, being preceded by a thin, watery nasal discharge a few weeks before the author saw the case. Some of the growth had been removed with the snare, but had promptly returned. Tracheotomy was performed, but the child died two days after the operation. A histological examination showed the tumor to be a sarcoma, and the glands sarcomatous.

LEDERMAN.

Tuberculosis of the Larynx in Children—PLICQUE—*Ann. des Mal. de l'Oreille, etc.*, No. 5, March, 1898.

Dr. Plicque calls attention to the rare localization of tuberculosis in children, a subject which forms the object of the work of Siégert, who has collected twelve cases, two being in his own practice. One of these was a tuberculous child of eleven years, who had progressive ulceration and tuberculosis of the tonsil, velum palati and uvula, the surfaces being covered with a false membrane, which was filled with streptococci, diplococci and numerous tuberculous bacilli.

The author reports a case of a child of four and a half years, who had ulceration of the pharynx, which resulted in progressive destruction of the uvula and of the epiglottis, caseification of the cervical ganglions, and finally tuberculous and enteric complications.

Among the twelve cases of Siégert (*Jahrbuch f. Kinder-Heilkunde*, Vol. xlv) the uvula was affected only in two cases, the tonsils in five, the epiglottis in six, and the tongue and posterior part of the pharynx in nine. The mucous membrane of the cheek was affected in only one case. The progress is rapid; at the commencement fever is absent or but very slight; engorgement of the cervical ganglion is constant. The absence of the bacillus of Lœffler is the only means of preventing confusion with diphtheria. The prognosis is fatal. The best local application, especially where there is false membrane, appears to be lactic acid.

SCHEPPEGRELL.

A New Method of Tubing the Larynx—J. S. DE JARNETTE—*Va. Med. Semi-Monthly*, May 27, 1898.

Dr. J. S. De Jarnette reports a case of edema glottidis in a man of eighty years. Dyspnoea developed rapidly, and as an O'Dwyer's case was not at hand and the symptoms urgent, and also in view of the fact that crico-tracheotomy in one so old and feeble seemed almost hopeless, a soft rubber tube was passed through the nose into the windpipe. An ordinary œsophageal tube was used, the end being cut off just above the eyelet. As soon as the tube was inserted the labored breathing ceased and the patient at once improved. Pneumonia, however, developed within twenty-four hours, the patient dying within two days, although the laryngeal stenosis had been entirely relieved.

The advantage over the O'Dwyer method is that the tube is cheap and easy to obtain, and requires no special skill to introduce. The advantage over tracheotomy is that the air is warmed in its passage through the nose, naso-pharynx and larynx, and it does not interfere with nourishment.

SCHEPPEGRELL.

(The method described is a useful one in emergency cases. It must not be supposed, however, that the air can be satisfactorily prepared for respiration by passing through a catheter inserted into the nostril. It receives none of the moisture and but little of the heat which is furnished in ordinary respiration.—Scheppegrell.)

Syphilitic Laryngitis, with Cases—H. STRAIGHT—*Va. Med. Semi-Monthly*, May 27, 1898.

Dr. H. Straight gives a synopsis of the differential diagnosis of this condition from lupus, carcinoma and tuberculosis.

Lupus of the larynx ordinarily attacks this organ secondary to cutaneous lupus, and selects by preference the epiglottis. Carcinoma is rare; it usually attacks the ventricular bands first; the diagnosis by means of a microscope is, as a rule, easy, but it is well to try the therapeutic value of iodide of potash. Tuberculosis of the larynx is common; the anæmia of the larynx, the pear-shaped condition of the arytenoids and the association of pulmonary tuberculosis render the diagnosis easy in the majority of cases. Syphilis of the larynx is common; when mistaken for any of the diseases already mentioned, and iodide of potash is not administered, the result may be deplorable. It should therefore be given a trial in cases in which there is the least doubt.

SCHEPPEGRELL.

Precocious Œdema in Secondary Syphilis of the Larynx—LACROIX—*Med. Bulletin*, Vol. xx, No. 6.

In a young woman, married for three or four months, the author noticed a pale swelling of all the right ary-epiglottidean fold. The patient complained of pain in swallowing. A month later, internal dysphagia with pseudo-membranous patches upon the tonsils, and increased œdema. Papular and macular syphilides appeared upon the skin. The dysphagia disappeared after the first doses of mercury. The œdema of the larynx was the last to disappear. The writer believes the œdema to be a new symptom of secondary syphilis. Dr. Brindel thinks that in this case the lesion was the primary sort.

LEDERMAN.

Intubation for Foreign Body—SEVESPE and BONNUS—*Medical Record*, Feb., 1898.

A girl of five years drew a bead into the larynx, which brought on several attacks of suffocation, one of which was attended with abundant hæmoptysis. After a month intubation was performed, and in an attack of coughing following the introduction of a large tube, the bead was expelled.

LEDERMAN.

Foreign Body in the Larynx—PEYSER—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

The foreign element was a piece of bone four-fifths of an inch long and three-fifths of an inch wide. It was in position for four months. No symptoms were noticed except some pricking in the throat and occasional dyspnœa.

LEDERMAN.

A Foreign Body in the Air Passages—E. PEGESSOC—*Med. Record*, April 23, 1898.

Intra-tracheal injection of cold water succeeded in expelling the foreign body, without necessitating a tracheotomy. No history given.

LEDERMAN.

Spasmodic Closure of the Glottis in an Adult—HAMILTON STILLSON—*Jour. Am. Med. Assn.*, February 26, 1898.

The cause of the condition is usually reflex and is but a symptom of some remote nerve lesion. There are two varieties, one in which there is spasm of the adductor muscles of the larynx, in the other paralysis of the abductors.

The former occurs in such nervous diseases as chorea and hysteria. It is usually of short duration, is relieved by temporary anæsthesia, and when let alone subsides before unconsciousness supervenes.

Of the latter class there are two forms, one seen in such diseases as epilepsy, the other in such diseases as ataxia. In the epileptiform cases the attacks occur suddenly, without premonitions, are of short duration, and there is usually entire loss of consciousness.

In the ataxic form, while the patient may fall he does not lose consciousness. The attacks are less sudden, less transient and are often preceded by premonitory symptoms. The principal difference is that there is paralysis or paresis, more or less constant, between the periods of dyspnoea. This form of closure of the glottis is worthy of careful study because it is sometimes the only observable precursor of ataxia.

ANDREWS. (BISHOP.)

Laryngeal Stenosis Due to Advanced Tubercular Disease Relieved by Intubation—D. B. DELAVAN—*N. Y. Polyclinic Journal*, March 15, 1898.

Dr. D. B. Delavan reports prompt relief from the introduction of a tube in a young lady twenty-three years old. This patient was suffering from pulmonary and laryngeal tuberculosis, and was attacked with suffocative seizures which at times threatened her life. During one of these attacks the author was consulted, and as the condition of the patient did not warrant a tracheotomy, intubation was performed with a happy result. The patient immediately breathed freely through the tube, and was placed in bed. Ten minutes later she was enjoying a quiet sleep. The tube was worn with absolute comfort for a week, at the end of which period it was removed to be cleaned. There was so much improvement in the condition of the larynx at that time the tube was not reintroduced. Another suppurative attack, however, soon followed, and the same good result was noticed after the tube was placed in position. This treatment was continued repeatedly to the end.

LEDERMAN.

The Development and Care of the Singing Voice—R. MCKINNEY—*Memphis Med. Monthly*, May, 1898.

Dr. R. McKinney gives a study of the singing voice and its care, with special reference to breathing and correct physiologic nasal respiration, in which the methods of Dr. H. H. Curtis are closely followed.

SCHEPPEGRELL.

Laryngeal Necrosis in Enteric Fever—SIR GEORGE DUFFY—*Dublin Journal*, March, 1898.

In the opinion of the author, the inflammation and ulceration of the laryngeal mucous membrane (which is the usual starting point of perichondritis and subsequent necrosis of the laryngeal cartilages in these cases) is of a specific nature, the result of the typhoid bacillus. He reports a fatal case of a young man, twenty-two years of age, who complained of throat symptoms a week before his death. These were attacks of coughing, with great difficulty in breathing, and hoarseness. Tracheotomy was not attempted on account of the serious condition of the patient.

Post-mortem examination showed typical typhoid ulceration in process of cicatrization in the ileum, together with enlargement of the mesenteric glands and other lymphatics. The epiglottis was swollen and edema of the ary-epiglottidean folds was seen. On the external and posterior surface of the plate of the cricoid a small, dirty-yellowish spot was noticed. An incision was made through this area, which opened a small abscess containing half a drachm of pus. The underlying cartilage was roughened and eroded.

LEDERMAN.

Chorditis Vocalis, Inferior—OTTO J. FREER, Chicago—*The Chicago Medical Recorder*, February, 1898.

The paper consists of the report of a case of subglottic neoplasm, with a general review of the literature of this class of rare cases.

PYNCHON. (BISHOP.)

Paralysis of the Recurrent Laryngeal in Mitral Stenosis—*The Med. Times and Register*, Vol. xxxv, No. II.

Symptoms of hoarseness with great dyspnoea were observed in a boy seventeen years old. Complete paralysis of the left vocal cord was present. Examination of the heart revealed a systolic murmur. At the necropsy the heart was found generally enlarged, with pericardium universally adherent. Evidences of fungoid endocarditis were even present. The left auricle was enormously dilated and pressed upon the recurrent nerve.

A similar condition was observed in a woman of thirty-four years, with a rheumatic history. There was a complete paralysis of the left vocal cord. At the autopsy the mitral valve showed button-hole stenosis, with the left auricle immensely enlarged, squeezing the recurrent laryngeal against the aorta and leading to its degeneration.

LEDERMAN.

Two Cases of Ludwig's Angina or Sublingual Phlegmon—W. E.

CASSELBERRY, Chicago—*The Chicago Med. Recorder*, May, '98.

Two cases of this unusual disease are reported, and a resumé of the literature given. Early and free incisions are recommended. Serious dyspnoea, indicative of œdema of the larynx, should be promptly met by tracheotomy, which, to be effective in cases of impending suffocation, must be done at once, else the continued suction upon the pulmonary blood vessels, produced by muscular efforts at respiration when the glottis is closed, will result in fatal œdema, notwithstanding relief.

PYNCHON. (BISHOP.)

V. EAR.

Eczema of the External Auditory Canal—J. W. MAY—*Med. et Surg. Reporter*, Vol. lxxviii, No. 4.

No fluids, soap, or water, should be used. Local and internal medication are advised.

℞—Acid phos. dil.....3iv
 Tinc. ferri chlor.....3ii
 Syr. limonis.....3iii
 M. S.—Teaspoonful in a wine glass of water after meals.
 Pil. aloni comp. $\frac{1}{10}$ grain night and morning for constipation.

Locally:

℞—Acid carbol. pur.....gr. xx
 Unq. zinc ox. benz.....3i
 M. S.—Apply freely.

LEDERMAN.

Earache: Its Importance—HINKLE—*Med. Summary*, Vol. xx, No. 4.

A summary of cautious remarks.

LEDERMAN.

Earache and Discharging Ears in Children—MORROW—*Am. Med.*

Surg. Bulletin, Vol. xii, No. 12.

This observer believes that the common cause of earache is an acute otitis media. Nasal and post-nasal lesions must be looked for. The mouth and teeth should always be examined. Eruption of the "molars" is often preceded by purulent otitis media. Infectious diseases are mentioned as frequent causes.

LEDERMAN.

Prevention of Scarlatinal Otitis—CANBY—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

As a preventive the author paints the pharynx with a solution of resorcin or naphthol-camphor. The resorcin solution's strength is ten per cent. The formula for the naphthol-camphor solution is:

℞—Betanaphthol.....3iiss
 Camphor.....3v
 Glycerine.....3i
 M. S.—For external use.

LEDERMAN.

On the Prevention of Pyemic Complications from Acute Otitis Media—B. F. CHURCH—*Southern California Practitioner*, Vol. xii, No. 6, June, 1898.

Church's paper is a timely resumé of the methods now favored in the attempt to prevent infection in acute suppuration of the tympanum, and for this purpose he emphasizes the importance of early recognition of the condition and an early incision of the membrana as performed by Tansley, of New York, and of late freely written and spoken of as "Tansley's Cut in Acute Attical (sic) Disease." Church would class all acute inflammations of the tympanum under the heads of *infected* and *non-infected*.

EATON.

Simple Device in the Treatment of Acute Otitis Media—SETH S.BISHOP—*The Times and Register*, Vol. xxxv, No. 12.

A piece of cotton is placed lightly in the mouth of the canal. A pipe is filled with tobacco and lighted. Then a piece of clean cloth is placed over the mouth of the pipe-bowl and gently blown through, while the lip piece of the warm stem rests against the cotton pledget. This filters the warm smoke and a grateful sedative effect is soon obtained.

LEDERMAN.

Ossiculotomy in Chronic Suppuration of the Middle Ear—J. A.STUCKY—*Jour. Am. Med. Assn.*, March 26, 1898.

When caries of the ossicles exist, the writer advises removal of same, and of all necrosed tissue, and thorough curettement of granulations, so as to give free drainage through the external auditory canal. General anæsthesia must be employed. Attention is called to the necessity of correcting all obstructions to nasal respiration, which, if neglected, will tend to prolong the tubal and middle-ear trouble.

PYNCHON. (BISHOP.)

Pyæmic Sinus Thrombosis, Etc.—FRED. WHITNEY—*Archives of**Otology*, February, 1898.

This very interesting resumé, based upon three successfully operated cases, is a valuable contribution to the subject. Chronic suppuration of the ear is responsible for the greatest number of intra-cranial inflammations. Authorities have found that micrococci and bacilli were always associated in fetid secretions, while in the non-fetid only micrococci were present. Poliver determined "by culture and inoculation that the bacilli present in foul discharges were not pathogenic, but possessed saprophytic properties only, while inoculation with the micrococci produces speedily fatal sepsis." Gruber states that this conclusion demonstrates that the offensiveness of a discharge from the ear is no criterion of the dangers to be apprehended by it. The healthy muco-periosteum offers a strong resistance against the invasion of bacterial products, and consequently absorption is very slow, the micro-organisms being destroyed by the phagocytic properties of the leucocytes. When the disease becomes chronic the tissue defense becomes greatly lessened.

The author recognizes two varieties of sinus thrombosis, viz., primary or marasmic, and secondary or infective. The last named is the usual form following middle-ear suppuration. The "path of infection" in septic brain diseases is most commonly from direct extension from diseased bone lying in contact with the skull contents.

In a thrombosed sinus, "disintegration of the clot may be sufficiently extensive to cause a partial restoration of the lumen of the vessel, and the current be re-established either, through the center

of the thrombosis, or between it and the nasal wall, in which manner portions of the septic material are swept into the circulation and deposited elsewhere, giving rise to metastatic abscesses characteristic of pyæmia." Furthermore, general infection may result from lymphatic absorption of the pyogenic organisms which penetrate the walls of the diseased veins and sinus and infiltrate the adjacent tissues.

"An attack of sinus phlebitis is usually ushered in by pain over the affected side of the head, malaise nausea, preceded or followed by a sudden chill and a sudden and pronounced rise in temperature, 106° F. being frequently observed."

Rigors are a characteristic symptom. Vertigo is more constant when associated with meningitis. It is not a distinguishing symptom. Consciousness is a very varying symptom. In the early septic stage, Griesinger's symptom, œdema of the region of the occipital vein, with marked tendencies on pressure in the upper portion of the post-cervical triangle, is a valuable guide. Œdema of the eyelids of the affected side at times assists in arriving at a prompt diagnosis.

Zanfä (1880) first suggested the feasibility of opening and cleansing the sinus from purulent thrombi, and of ligating the internal jugular as a prophylactic measure.

WHEN TO OPERATE.

Körner says "as soon as you have made the diagnosis of sinus thrombosis, the moment to operate has arrived." The author believes that the tendency of infective thrombosis is always toward disintegration and the establishment of metastatic embolic processes. He further recommends that operators should always ligate the internal jugular vein when the sinus contains purulent material or a disintegrated clot. If the clot extends into the jugular vein, the vessel should be tied at the lowermost portion of the obstructed vein and as high up as possible, and then researched. In this method you avoid the probable infection from decomposition of the clot, if the diseased skin was not removed.

In cases where we cannot re-establish the circulation from below the jugular bulb, whether the disintegrated clot has been removed or not, the author states that it is your imperative duty to ligate the jugular vein. It is very gratifying to observe that he also enters a vigorous protest against the danger of manipulating a diseased vein in the neck in the hope of dislodging the clot. This procedure is more apt to favor the further spread of the infectious material.

At the present time the prevailing opinion of operators is to tie the jugular in all cases where toxic symptoms are pronounced, or where metastases are already present. The jugular vein should be tied before the sinus is opened. Voss recommends that the sinus should first be uncovered and the diagnosis verified, and then ligate the jugular.

The author reports three very interesting successful cases, with detailed histories and remarks. He summarizes as follows:

FIRST.

The indications for jugular ligation in thrombosis of the sigmoid sinus, before exposing the sinus, are:

A.—The existence of chronic otorrhœa.

B.—Pronounced manifestations of pyosepticæmia, high fever, sudden remissions and repeated rigors.

C.—Metastases.

D.—Griesinger's symptom, occipital œdema.

E.—œdema of eyelids of corresponding side.

F.—Tenderness along the course of the jugular in the neck, and perhaps the cord-like feeling of the infected vein.

G.—Beginning neuro-rhinitis.

SECOND.

The indications for ligation after exposing the sinus and recognizing the thrombosis, but before opening it:

A.—The presence of a clot extending well down into the bulb and disintegrated in its lower portion (as indicated by aspirator), associated with distinct pyæmic symptoms, although metastases are absent.

B.—The display by the sinus of respiratory movements would render probable the admission of ærial embolism to the heart unless the vein was first tied; such movement in the sinus wall indicates the presence of a clot somewhat back toward the torcular from the point where the aspiration takes place, and has been noted by Jansen, Schwartz and Körner, while sudden and fatal asphyxia from ærial embolism of sinus has been reported by Kuhn.

THIRD.

Indications for ligation of the exposing and opening of the sinus:

A.—The presence of a large thrombus, extending down into the bulb, and having undergone purulent liquefaction in the deep bulbous portion, which may not have been diagnosed until the sinus was extensively opened; the curetting deeply into the neck under such conditions is fraught with imminent risk to the patient unless the vein is tied.

B.—Inability to re-establish the circulation from below, whether the clot has or has not been disintegrated, and whether or not there has been tenderness in the neck.

C.—Inability to re-establish the circulation from either direction has aroused some discussion as to the advisability of ligating both jugulars, but the author does not find that any serious consideration has been devoted to this purpose.

He believes that it is a dangerous practice to place the nozzle of the syringe in the divided end of the jugular, near the bulb, and wash out the contents forcibly upwards and out of the opening in the sinus wall. For if the visceral layer of the wall is softened the injected fluid may rupture it and pass into the subdural or sub-arachnoid space, thus distributing infective material.

LEDERMAN.

Diseases of the Mastoid ; Their Course and Treatment—FRANK S.

MILBURY—*Jour. Am. Med. Assn.*, April 30, 1898.

Owing to the arrangement of the ossicles and folds of mucous membrane, they may, by slight inflammatory swelling, close the narrow opening to the attic and thus constitute a serious factor in middle-ear pathology. Attention is called to anatomical peculiarities occasionally met with. The indications for operation are clearly given and the various steps of the operation lucidly described. In suitable cases the use of the electric engine is recommended.

PYNCHON. (BISHOP.)

A Case of Spontaneous Mastoid Pneumatocoele—N. JOSSERAND AND

CARLE—*Revue Heb'd. de Laryng., etc.*, May 7, 1898.

Drs. N. Josserand and Carle report a case of a patient of twenty-one years, who, at the age of eleven, suffered violent pains of the auricular and mastoid region. At sixteen years he suffered from vertigo when his head was suddenly lowered, stared long at an object or bright light, or became excited or angry. At the same time when he developed a slight degree of deafness, the patient observed at intervals, and while making violent efforts, a small tumor on each side of the mastoid apophysis, but more marked on the right. This disappeared spontaneously, after having been accompanied at the moment of its appearance by slight pain.

Six days after entrance into the hospital the patient developed intense pain in the neighborhood of the mastoid region, with vertigo, vomiting and fever. The skin was somewhat tumefied and the tumor non-reducible and dull on percussion. The canal and the tympanum appeared normal.

An incision was made through the tumor and gave vent to a few drops of pus. The bone was explored with care, but nothing abnormal was found. The wound was then closed, which healed rapidly. The tumor did not reappear. In regard to the pathogeny of spontaneous mastoid pneumatocoele, the author states that it is due to an arrest of development near the petro-squamous suture and not, as above suggested by Hyrtl, to a superficial atrophic bony lesion.

SCHEPPEGRELL.

The Relation Existing Between Bright's Disease and Certain Ear Symptoms—FRANCIS DOWLING—*Jour. Am. Med. Assn.*, March

26, 1898.

The writer reports two cases wherein impaired audition and the presence of subjective symptoms were observed in connection with organic kidney disease, which he is disposed to regard as being the cause of the aural manifestations, through the retention of morbid matters in the blood, and their producing toxic irritation or degeneration of the nerve filaments in the labyrinth.

PYNCHON. (BISHOP.)

Ptosis as a Symptom in Abscess of the Temporal Lobe—STEINBRÜGGE—*Med. Record*, April 2, 1898.

Körner first called attention of this symptom associated with an abscess of the temporal lobe of the brain. In the case reported by the author, the abscess followed a purulent otitis media. He believes that the ptosis in his case was not due to a spasm of the orbicularis palpebrarum, but to a paresis or weakening of the innervation to the levator palpebræ.

LEDERMAN.

Convulsions Due to Aural Disease—VERDOS—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

These symptoms appeared during acute exacerbations and were promptly relieved by incisions into the inflamed membrana tympani.

LEDERMAN.

Auricular Vertigo Due to Foreign Body Thirty Months in Auditory Canal—M. CERF—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

M. Cerf observed these symptoms in a child of eight years. While running, the boy would suddenly fall. Fox's auricular cough (short and dry) was noticed. No history of any ear trouble. The syringe removed three pieces of gravel from the auditory canal, which a companion had thrown into the child's face thirty months previous. All symptoms disappeared.

LEDERMAN.

Auricular Manifestations of Grippe—COURTADE—*Revue Hebdomadaire de Laryngologie, etc.*, April 30, 1898.

Dr. Courtade states that auricular affections in grippe may develop various clinical characters, such as simple catarrhal otitis, and acute otitis media, which prompt treatment may remedy, or which, within a few days, may develop suppuration or suppurative otitis media, with its mastoid complications, more or less frequent and grave according to the virulence of the epidemic or the subject in which it develops. A less frequent form develops hemorrhagic blebs upon the tympanum and auditory canal.

SCHEPPEGRELL.

Contraction of the Jaws in Suppurative Lesions of the Ear—

A. PIETRO—*Revue Hebdomadaire de Laryngologie, d' Otol. et de Rhin.*, May 7, 1898.

Dr. A. Pietro states that this phenomenon has been but rarely observed. When it develops it is due to a spreading of the purulent process by way of the openings through which the malleo-maxillary ligaments and the tympanic cord pass.

The uncertainty of the seat or of the degree of the temporo-maxillary ankylosis does not form a real contraindication for the resection of the condyles of the jaw. The operation is not complete unless the suppurative process in the tympanum is remedied, and at least the tympanic ring removed.

SCHEPPEGRELL.

Epidemic Cerebro-Spinal Meningitis—W. T. COUNCILMAN—*Maryland Med. Jour.*, Vol. xxxix, No. 7.

The ear lesions in this disease are always secondary. Some cases of secondary otitis media, in which diplococci were found in the pus cells, offer proof of the extension of the infection from the brain.

LEDERMAN.

Adenoid Vegetations of the Vault of the Pharynx, with Special Reference to Anæsthesia in Operating—LENZMANN—*Ther. Monats.*, April 23, 1898.

Dr. Lenzmann is of the opinion that a thorough, sure and safe removal of vegetations is absolutely necessary. He operates on patients only in the sitting posture, children being held on the lap of a nurse. The operation should be conducted in that stage of anæsthesia in which the sense of pain has disappeared, but the reflexes not abolished. A mouth-gag is not recommended, since it renders swallowing difficult. For opening the mouth, an ordinary spatula is sufficient. First the tonsils are removed by the Mackenzie tonsillotome, if necessary, and then the adenoid vegetations with the Gottstein curette.

After the operation, the author recommends rest in bed and fluid diet, for a few days nasal tampon, and finally swallowing of ice. He has seen numerous cases of anorexia, with hypertrophy of the pharyngeal tonsils, in which no other cause could be found, in which the removal of the adenoid growths gave excellent results.

(The mouth-gag is almost indispensable in the majority of cases. The nasal tampon is not only superfluous, but even dangerous, unless the greatest care is exercised.)

* SCHEPPEGRELL.

Some Further Results in Treating Ears by Massage Methods—

LOUIS J. LAUTENBACH—*Jour. Am. Med. Assn.*, March 26, 1898.

By massage the impairment of hearing is diminished and the tinnitus, unless attended by severe aural vertigo, is generally improved. The effect of this treatment is beneficial in both middle-ear and labyrinthal cases. In the middle-ear cases it is principally due to the direct or mechanical effect of the intermitting air suction. In the labyrinthal cases the stapes is caused to resume its normal elastic hold in the window, and thus nerve pressure is relieved. Additionally, the dormant nerves are awakened from disuse by the rhythmical sounds in combination with the intermitting suctions. By restoring the normal mechanical action in a diseased ear much is done towards its cure, and in recent cases means should be used to attain this end as soon as the acute inflammation has sufficiently subsided. In this way the number of chronic catarrhal cases would rapidly grow less. Massage will often do away with the requirement for middle-ear operation, which in fact should never be attempted until after massage has failed to improve the hearing and relieve the tinnitus. Suppurative cases are also favorably influenced by massage, which cleanses the attic by suction with vibration of the ossicles.

PYNCHON. (BISHOP.)

Labyrinthine Phenomena Dependent upon Middle-Ear Diseases, and Their Relief by Local Treatment—E. DENCH—*N. Y. Poly-clinic Journal*, Vol. x, No. 6.

In a class of cases which have come under the author's observation, the history given pointed to some recent inflammatory process in the middle ear. The lowest tones of the musical scale were well heard; the upper tone limit was either considerably reduced or normal, and bone conduction was either entirely absent or much below the normal standard. Eustachian tubes were reduced in calibre, but the air entered the tympanum easily upon catheterization. Inflation produced a harsh sound, indicative of the presence of mucus in the canal. Inflation frequently caused slight vertigo. Functional examination in these cases gave all the characteristics of a labyrinthine lesion. The results of internal medication were negative. Immediate relief, however, followed the application of the Eustachian bougie. The author believes that rarefaction of the air within the middle ear may so alter the labyrinthine tension as to produce an actual traumatic affection of the labyrinth. Where the Eustachian tube becomes suddenly occluded, from any cause, the sudden reduction of air pressure within the middle chamber may bring about a similar condition of increased labyrinthine concussion. If these cases are allowed to go without treatment, organic changes occur in the labyrinth, and no improvement will follow the treatment of the middle ear.

LEDERMAN.

Training the Deaf—SCHEPPEGRELL—*Med. Record*, April 22, 1898.

The great point of difference between the European schools for deaf-mutes and those of our country is in the mode of instruction. In Europe, teaching by articulation and lip-reading prevails, while with us the sign or manual language is still the method of instruction chiefly relied upon.

(In view of the fact that the deaf-mute who has acquired articulation and lip-reading becomes a more useful member of society, this method should be taught where practicable. Unfortunately, however, it is difficult to teach this method to children unless it is commenced at a very early age (five to eight years), and even in these cases it is accomplished only with much difficulty.)

SCHEPPEGRELL.

Troubles Caused by Adenoid Vegetations in the Adolescent and Adult—BONAIT—*The Times and Register*, Vol. xxxv, No. 10.

This condition, the author believes, is often overlooked in the adult. Two classes of disorder are brought about by the presence of these growths: First, impeded respiration; improper aeration of the tympanic cavity, with possible extension of inflammation to the cephalic membranes from an infected atrium. Second, troubles indirect or reflex, as neuralgias, spasmodic laryngitis and other similar ailments.

LEDERMAN.

The Preparation of Loeffler's Solution for the Local Treatment of Diphtheria—*Deutsche Med. Zeit.*

For the destruction of diphtheria germs Professor Loeffler has found the following mixture to be most effective:

Alcohol, 50 parts.
Turpentine, 50 parts.
Carbolic acid, 2 parts.

Distributed over a surface, the diphtheria germs are destroyed by this combination within twenty seconds. The same may be said of iron-chloride solution and other iron preparations. But as even the brief space of twenty seconds is too long for purposes of practical treatment, Professor Loeffler sought a liquid exerting speedier action. Mindful of the fact that certain substances, such as toluene, benzene and similar products checked the growth of diphtheria germs, Loeffler subjected these to close investigation and assured himself that the best results are obtained from the following combination:

Alcohol, 64 parts.
Benzol (Benzene) or toluol (toluene), 36 parts.

The activity of the mixture is augmented by adding 4 per cent. iron-chloride solution. Experiments made at the vulva of animals were followed by very favorable results. With men it was also demonstrated that where the diphtheria affection is still susceptible of local control, the last mentioned mixture is capable of checking the process with certainty. Used in due season, the germs in the pseudo-membranes can be quickly exterminated; no new formation of poison (toxin) takes place, hence none is absorbed by the organism. The quantity of toxin in the body is soon destroyed. The temperature is quickly reduced, precisely as after the injection of serum (antitoxin).

On staphylococci and streptococci the remedy does not act so speedily as on diphtheria germs.

In dealing with sensitive patients, especially smaller children, Loeffler recommends the addition of 10 per cent. of menthol.

Loeffler prepares his solution as follows:

Menthol, 10 grammes.
Toluene, q. s. to make 36 Cc.

Then add:

Creolin, 2 Cc.
Iron-chloride solution (sesqui-chloride), 4 Cc.
Alcohol, absolute, q. s. ad 100 Cc.

Mode of application: First the mucus is wiped off from the affected portions of the throat by means of a small pledget of cotton in a holder. Then a pledget of absorbent cotton, saturated with the solution and grasped with a suitable forceps, is pressed firmly against the diphtheritic membrane for ten seconds, and this application must then be immediately repeated. The applications are to be continued every three hours for four or five days, when all the local symptoms will probably have vanished. Manifestly the therapeutic use of serum (antitoxin) is not at all affected by this treatment.

VI. DIPHThERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

Diphtheria Antitoxin as an Immunizing Agent—W. M. DONALD

—*New York Med. Jour.*, May 14, 1898.

W. M. Donald states that from a large experience he is led to believe that antitoxin is a valuable immunizing agent in diphtheria.

SCHEPPEGRELL.

The Result of the Serum Therapy in Diphtheria—KRÖNLEIN—

Proceedings German Society of Surgery, Berlin, April, 1898.

Dr. Krönlein states that since 1894 he has used antitoxin in every case of diphtheria that came into the hospital. He believes that in cases of diphtheria, two or three out of 100 can be absolutely diagnosed clinically, although a bacteriologic examination is made in every case.

Statistics of the canton of Zurich report the number of cases of this disease and the percentages of deaths for every year since 1880, as follows:

Year.	No. of Cases.	Deaths, Per cent.	Year.	No. of Cases.	Deaths, Per cent.
1880	1,000	24	1889	1,100	18
1881	1,500	21	1890	708	18
1882	1,900	15	1891	900	16
1883	1,400	12	1892	1,300	15
1884	1,500	16	1893	1,400	21
1885	900	14.5	1894	1,450	19
1886	800	12.5	1895	900	12
1887	700	14	1896	1,000	7.5
1888	675	15	1897	1,500	6

(Number of cases given in even hundreds.)

The above shows the reduction in mortality from twelve to twenty per cent to six per cent.

SCHEPPEGRELL.

Koch's Tuberculin—KOCH—*Philadelphia Med. Jour.*, March, 1898.

At the last three meetings of the staff of the Charité, Berlin's large public hospital, the therapeutic worth of Dr. Koch's new tuberculin was discussed. On the whole, very little was said in its favor, and recently, even in lupus and localized laryngeal and mucous lesions, no success has been reported, although in some cases improvement has been claimed.

SCHEPPEGRELL.

Asthma: Its Cause and Treatment—E. F. PARKER—*Georgia Jour. of Med. et Surg.*, Vol. ii, No. 6.

Clinical experience has proved that the treatment of this affection, or naso-motor bronchitis, based upon the assumption that it is a nasal reflex in a majority if not in all cases, is a rational one, and the one which promises the most successful results.

Internal medication need not be excluded, while insisting upon the importance of surgical interference. Iodide of potassium is still extolled as a satisfactory remedy.

In one of the author's patients, a severe attack of asthma was brought on by an application of cocaine to the naso-pharynx. Adenoids were found, and after their removal for deafness, the asthmatic symptoms disappeared.

LEDERMAN.

The Treatment of Influenza with Anti-Streptococcus Serum—CURRIEU AND PELLON—*New York Med. Jour.*, May 14, 1898.

Dr. Currieu and Dr. Pellon report a case of influenza of a severe character, in which the expectoration showed numerous streptococci, in which antipyrin and quinine were without effect, which was cured by the injection of 20 cm. each of Marmorek's anti-streptococcus serum.

SCHEPPEGRELL.

Indications and Contraindications for the Use of the Schleich

Local Anæsthesia—KRECKE AND REICHOLD—*Wien. Klin. Rund.*, January, 1898.

As a result of an extensive experience with the Schleich infiltration anæsthesia, Dr. Krecke and Dr. Reichold offer the following conclusions:

In operating upon healthy tissue, as it were, such as injuries of the fingers, tracheotomy, etc., it is a most excellent method. For anæsthetizing inflamed parts, however, such as felons, furuncles and the like, it is of little worth, since the operation is practically as painful as without the anæsthesia. Again, the after-pain is often so marked and lasting that this method in inflammatory processes is to be condemned.

SCHEPPEGRELL.

A Case of Bronchial Catarrhal Asthma—W. L. MAY—*Memphis Med. Monthly*, April, 1898.

Dr. W. L. May reports the case of a man of forty-six years who suffered from asthma, which resulted from an attack of acute bronchitis. After various agents had been tried, one-tenth grain of morphine was given hypodermatically, which nauseated the patient, who suddenly went into a comatose state, from which he recovered under hypodermatic injection of strychnine and artificial respiration.

On the recurrence of asthma, morphine was given, under the effects of which he slept quietly. When he awoke, however, there were ptosis and paralysis of half of the tongue. The patient appeared to improve, when he again went into a comatose condition, with stertorous breathing, "complete paralysis," pupils dilated, a temperature of 94.5°, breathing 9 to 13 per minute. Artificial respiration was commenced and stimulants injected, and the patient gradually recovering. The author is at a loss for a satisfactory diagnosis.

(Perhaps the patient had an idiosyncrasy for one or more of the many medicaments administered, viz: Chloroform, ether, morphine, atropine, nitrite of amyl, hyoscyamus, gelsemium, apomorphine, strychnia, bromide of potash, gelsemium and turpentine.)

SCHEPPEGRELL.

Experimental Work on the Penetrability of Vaporized Medicaments into the Air Passages—HOMER M. THOMAS, Chicago—

Jour. Am. Med. Assn., May 28, 1898.

The writer describes an apparatus for the production of remedial vapors which are voluntarily inhaled by the patient. "Impaction," or the forcing into the air passages of the vapor by means of the air pressure, is not contemplated. The patient practices deep, forced, voluntary inspiration and normal expiration. As the residual air in the lungs is changed every seven respirations there is no reason why vaporized medicines may not penetrate into the pulmonary alveoli. Post-mortem examinations have revealed stained oil globules within the finest bronchi and alveoli. When the vapor is too irritating it causes a hypersecretion of mucus which impairs its action. As the lungs through inflammation lose elasticity, so that new air no longer enters, it was supposed that substances mixed with air would also not enter. By experiment it is found that corpuscular bodies do readily enter into diseased lungs, and thus vaporized remedies may penetrate diseased foci and cavities. In practice the results of the treatment have been beneficial.

PYNCHON. (BISHOP.)

The Spasmodic Night Cough, with Vomiting and Coryza, in Children—P. GASTOW—*Der Kinder-Arzt*, May 14, 1898.

Dr. P. Gastow states that this very common affection is of reflex origin, sometimes due to intestinal parasites and to other causes, but usually to a coryza posterior. The cough has the following characteristics:

It is spasmodic, similar to whooping cough; causes nausea and vomiting and occurs at night when the child is in bed, never when it is up, and rarely during the day; it is present only in very young children, because they do not expectorate and cannot clear the nose; the mucus, therefore, drops back into the pharynx and the irritation of the pharyngo-laryngeal mucous membrane thus produced causes a reflex cough. The cough is spasmodic because the mucus collects in the region of the arytenoids and the vocal cords, causing glottic spasm and attacks of suffocation. The cough occurs at night because then the position of the head favors the gravitation of the mucus to the pharynx and larynx.

Treatment consists in the application, three to four times daily, through the entire length of the nasal passages, of tampons saturated with borovaseline. This at first causes sneezing, but later the infant bears it well. The "snuffling" causes the vaseline to flow into the pharynx. Astringents, such as tannin or alum, and especially antipyrin, may be added to the vaseline.

(Tannin, alum and other astringents usually cause considerable irritation in these cases, and antipyrin is dangerous. The mechanical cleansing of the parts by means of a gentle nasal syringe of a warmed non-irritating solution gives temporary relief, and the cause, whether local or constitutional, should be carefully looked for and treated.)

SCHEPPEGRELL.

VII. INSTRUMENTS AND THERAPY.

The Expenditure of Electric Energy—MARGARET A. CLEAVES—

Jour. Am. Med. Assn., May 21, 1898.

While the writer of this paper is not a laryngologist, the subject matter is of value to all who use electricity. In the application of galvanism or electrolysis from either a constant or alternating current, the writer uses a voltmeter in circuit, as well as a milliamperemeter, and aims to control the pressure of the current as well as its intensity. "The blow that will cause the death of an eagle will not only take the life of a tiny humming bird, but will shatter it to atoms as well, while the power necessary to cause the death of the latter may have no effect on the former." The writer's argument is undoubtedly correct that a voltmeter should always be the companion of the milliamperemeter.

PYNCHON. (BISHOP.)

Antinosine in the Treatment of Diseases of the Eye and Ear—

W. F. COLEMAN—*Jour. Am. Med. Assn.*, January 29, 1898.

Dr. W. Coleman considers antinosine to possess antiseptic properties superior to formalin, sublimate, boracic acid and iodoform, in eye and ear work. It is the sodium salt of tetra-iodo-phenolphthalein, a dark blue amorphous powder readily soluble in water and alcohol, odorless, non-toxic and non-irritating, and makes a purplish solution in water. A one to two per cent solution does not cause pain to the eye or ear.

SCHEPPEGRELL.

Sudden Development of Acute Pulmonary Tuberculosis During the Treatment of a Case of Tuberculous (?) Peripheral Neuritis by the Antiphthitic Serum—J. H. HOLLOWAY—

Louisville Med. Monthly, May, 1898.

Dr. J. H. Holloway reports the case of a man of twenty-five years, who suffered from severe pains in the arms and legs, which were thought to be due to multiple neuritis and from tuberculous laryngitis. Tuberculous bacilli were found in the sputum, and supposing that the multiple neuritis was also of the same character, a hypodermatic use of antiphthitic serum, T. R. formula Fisch, was commenced. Five m. were at first administered, and this increased until sixteen m. were reached. The improvement was continuous and the pains disappeared.

A few days later, however, the temperature began to rise and the apex of each lung was found to be involved, and in a few days the whole lung was affected. Within two weeks the patient died from acute pulmonary tuberculosis.

SCHEPPEGRELL.

(Without discussing the value, if any, of the various antiphthitic serums, it should be remembered that tuberculous laryngitis is so rarely of primary origin that it has even been disputed. An examination of the apices of the lungs before the injection would probably have shown that one or both were affected when the patient first came under observation.—Scheppegrell.)

BOOK REVIEWS.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear. By W. SCHEPPEGRELL, A.M., M.D., New Orleans, La. Octavo, 161 illustrations, 403 pages, cloth, G. P. Putnam's Sons, New York, publishers, 1898. Price, \$4.50.

In the present era of oto-laryngological progress, Dr. Scheppegrell's comprehensive work on electricity in its application to diseases of the nose, throat and ear, will be recognized as an important and valuable contribution to medical literature.

This volume is an innovation in our special literature, as it is the first to present, in a systematic manner, the principles and practice of electricity as far as it concerns the aurist and laryngologist.

The arrangement of the book is admirable. The introductory chapters are devoted to a consideration of the general principles of electricity, a classification of the various forms of electricity and the application of each, a clear and concise description of the most desirable forms of batteries, dynamos, rheostats and meters.

Then follow chapters on the method of applying galvanism, the selection of electrodes, the use of the faradic coil and a brief mention of the static induced and sinusoidal currents.

In the chapter devoted to illumination, the author introduces the use of the incandescent lamp in its various forms for laryngoscopic examination, a very interesting section on the arc light and apparatus for laryngeal and post-nasal photography and the application of the electric lamp in heating apparatus for warming sprays, sterilizing instruments, etc.

Three of the most valuable chapters in the book are devoted to the consideration of trans-illumination and direct laryngoscopy.

The electro-cautery, its application and its value, the selection of cautery points and handles follows in two chapters.

Electrolysis, cataphoresis and interstitial electrolysis are treated in an able manner. These are especially valuable chapters, as the author has contributed much original work in this direction.

The question of electric motors, drills, saws and massage apparatus is, at the present moment, of much interest, and many practical suggestions may be gleaned from this chapter.

The seventeen succeeding chapters are taken up in a systematic consideration of the application of electricity to diseases of the ear and upper air passages. The concluding chapters offer much interesting information concerning the X-Ray in oto-laryngology.

A feature of the work which deserves special mention is the valuable compilation of Bibliographical References.

The numerous and excellent illustrations add much to the appearance and handiness of the volume.

The book is a beautiful example of the skilled typographer's art. The volume may be justly considered a masterpiece of its class, and the author richly deserves the praise thanks of the profession.

M. A. G.

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ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

THE OPERATIVE TREATMENT OF PHARYNGEAL ADENOIDS*

BY H. V. WÜRDEMAN, M.D., OF MILWAUKEE, WIS.

Ophthalmic and Aural Surgeon to the Children's Hospital; to the Milwaukee County Hospital for the Chronic Insane; Member of Committee on Ophthalmology and Otology of the Wisconsin State Medical Society, 1898, Etc.

In the greater majority of children the adenoid structures of the pharynx are of appreciable size, but usually diminish during or after the period of adolescence. If persistent or enlarged sufficiently to cause nasal or Eustachian obstruction, or if their crypts and glands show a tendency to become inflamed and thus cause unpleasant symptoms, they may be deemed diseased and are applicable for treatment. The necessity for removal of adenoid growths in the pharyngeal vault was not recognized until a few years ago; I did not myself pay proper attention to it during my first five years of special practice, but during the last five years my experience with the operation has been rather extensive. Nature cures many cases of adenoid disease in the pharynx, hypertrophied pharyngeal, faucial and lingual tonsils, by absorption during and after adolescence. It is only when symptoms of post-nasal and nasal catarrh, mouth breathing and deafness appear that cases come to the notice of the physician.

*Read before the Wisconsin State Medical Society, Milwaukee, May 5, 1898.

Effective treatment of pronounced adenoid growth or hypertrophy of the pharyngeal tonsil is essentially radical and surgical. Local medicinal applications are not to be considered in this connection as they are only palliative and no permanent benefit is gained by their use. Cleansing with antiseptic-alkaline solutions by the patient or home treatment before and after operation is a necessary adjuvant. The administration of the iodide of iron is frequently indicated and all cases require regulation of diet and regimen.

I have the record of 247 cases in which pharyngeal adenoids of sufficient size to warrant some procedure for their removal were recognized, 189 of these have been operated upon, and without exception all with the most satisfactory results. The following table, which probably embraces more cases than any other hitherto published, has been compiled from my books, most of the cases occurring during the last five years:

TABLE OF PHARYNGEAL ADENOID CASES.

Age.	Anesthesia.			Total Operations.	Operation advised, but not accepted or deferred.	Operations not advised.	Total cases.
	Chloroform.	Nitrous Oxide.	Local.				
Under 1 year.	5			5		1	6
1	3			3		2	5
2	1			1		1	2
3	8			8	3	3	14
4	13			13	5	2	20
5	17			17	6	1	24
6	16			16	1	1	18
7	18			18	5		23
8	13			13	3		16
9	14			14	3	1	18
10	25	3		28	2	2	32
11	11	2		13	2		15
12	8		2	10	2		12
13	6		1	7	3		10
14	4		2	6			6
15	3		2	5			5
16	2		1	3			3
17	2		1	3			3
18	1			1	1		2
19	1	1		2			2
20	1	2	2	5			5
21	1		1	2			2
25			1	1			1
27			1	1			1
35			1	1			1
36			1	1			1
38					1		1
	172	8	16	196	37	14	247

It shows that this affection is essentially a disease of childhood, a large proportion of cases applying for relief about the tenth year.

Six cases occurred under one year, whose history showed that the pharyngeal occlusion began a few months after birth. Most cases, however, are first apparent about the fourth or fifth year. The affection is much less common after the fourteenth year, but few being observed after twenty years of age. It occurs in about equal proportion in male or female children. Cases in which these structures persist after the thirtieth year may be looked upon as exceptional.

Preparatory treatment of the patient in those cases which do not accept immediate operation is dietetic and hygienic, together with the administration of iodide of iron or hydriodic acid and simple cleansing of the nose with warm Seiler's, Dobell's or other appropriate cleansing solution. The day before operation the nose and naso-pharynx are kept clean by similar procedures.

Most children under the age of adolescence have been operated upon by chloroform anesthesia, assisted by suggestion; a few whiffs of the vapor, together with suggestion to sleep, being sufficient to control nearly all children. The co-operation of the patient is a positive advantage, and in but few has it been necessary to induce profound anesthesia. A small number of cases have been given nitrous oxide gas, but the anesthesia thereby produced is so short as to militate against a thorough operation. The few adolescents or adults have been operated upon as office patients under local anesthesia by ten per cent solution of cocain. For general anesthesia the patient lies prone, the head being kept on one side to allow of drainage of blood into the mouth, from which it is readily expelled through the efforts of the patient or attendants. The subject not being fully narcotised is always able to respond to orders to spit out the blood and blow the nose free of clots.

The operation preferred is a combination by the large ring knife of Gottstein or Gruber, the pharyngeal forceps and the finger nail. After induction of anesthesia the child's mouth is held open by the mouth gag. The left forefinger is inserted into the mouth and naso-pharynx, the ring knife being held in the right hand, the ring being guided over the middle of the growth by the left index finger. By a rapid downward motion the main mass is severed and usually brought forward into the mouth. One sweep of the ring knife to either side is then made, the left forefinger being inserted to feel if any tags of tissue remain which are removed by the forceps. The toilet of the pharynx is completed by scraping with the surgeon's asepticised forefinger nail.

The operation is very bloody, hemorrhage ensuing from half ounce to half pound immediately after the use of the ring knife. This oc-

cludes the view so that it must be largely done by the sense of touch. This hemorrhage usually fills the nose and mouth and bespatters the operator. In the several hundred operations that I have done there has been no case giving rise to any anxiety on this account. Immediately after removal of the growths the nose is douched by a hot antiseptic solution which cleanses away the clots and shreds of adenoid tissue and stops the hemorrhage. The after treatment in all cases has been the use of the same warm solution applied every few hours by the glass nasal douche cup or atomizer.

By this operation, all of the growth being removed at one sitting, we are usually able to dismiss the patient within a few days. In some cases, especially in adolescents who are sufficiently brave to have the operation done under local anesthesia, by the aid of illumination and the throat mirror, we may do the same procedure as has been described, and a few days later remove any remaining tags of tissue by the small curette and curved forceps. In a few cases the after application of chromic acid, nitrate of silver or the galvano-cautery may be made to expedite a thorough cure. Adolescents and adults with this disease, generally have sufficient turbinal hypertrophy and septal distortion to necessitate further procedure. In most cases hypertrophied faucial tonsils exist which are ablated at the same sitting. The whole procedure takes but a few minutes. Indeed I have a number of times successfully removed both faucial tonsils and pharyngeal growths in the brief period of unconsciousness afforded by nitrous oxide.

My experiences with uncombined methods, with small curettes or the ecraseur or finger-nail alone, the galvano-cautery or chemical methods have been unsatisfactory. An operation in which several of the instruments are used, varied to suit the occasion, is the best. I have no patience with the standpoint of those operators who deem it necessary to have a number of sittings, as in the majority of cases we are enabled to clear the naso-pharynx in one sitting and one operation.

The results of these operations are usually immediate. The pernicious habit of mouth-breathing is rapidly overcome and the benefit of free nasal respiration and drainage is soon evinced by improvement of facial appearance, the dull stupid look disappearing and the children becoming bright looking and more intelligent. The air being warm and purified, the tendency towards colds and catarrhal affections is lessened and, as it is known that many infectious diseases in children are acquired through the upper air passages, the liability to infection is lessened and many attacks of sickness are saved. If the

deformity of chicken-breast has already been established it is soon corrected through the proper breathing obtained. The respiration being deepened, the blood and tissues are more thoroughly oxygenated and the children rapidly gain in general health and weight.

One of the principal reasons why the aurist is consulted in children having this condition is on account of deafness. This is due to obstruction of the Eustachian tubes. Subacute and chronic aural catarrh with deafness, tinnitus, errache and vertigo in children is most commonly caused by obstruction of the Eustachian tubes, due to adenoid disease in the upper part of the pharynx and is rapidly cured by removal of the obstruction and a few subsequent inflations by the Politzer bag. Many cases of acute and chronic suppurative disease of the middle ear with perforation of the drum-head have their origin in the infection from obstruction by pharyngeal adenoids and a cure cannot be obtained by local ear treatment without removal of the cause.

There are few children of tender years who have nasal catarrh. The so-called catarrh is generally in the naso-pharynx and is due to adenoids, which after removal in very young children needs no further attention, but in older ones subsequent treatment is necessary.

I have had no unpleasant complications. There have been no cases of suppurative otitis media following any of my operations. I have seen and subsequently treated two such cases occurring after operation by other men whose standing, however, should allow of no criticism. In a small percentage of cases there has been slight fever for one or two days after the operation, due to slight infection and in these there has been delayed healing, but in no case has there been any unpleasant symptom after a week. As far as can be ascertained there have been only three instances where the growth has been insufficiently removed or in which it recurred in an amount large enough to warrant further operation. I have seldom made a secondary operation in cases which had previously been operated upon by others.

The results achieved by removal of naso-pharyngeal obstruction due to adenoid growths are so brilliant, and the risks are so slight, that when indicated and properly done, there is no more successful and immediately satisfactory surgical procedure.

128 Wisconsin Street.

SINUSITIS NASI.*

BY JOHN M. INGERSOLL, A.M., M.D., CLEVELAND, O.

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It is the purpose of this paper to report sixteen cases of Empyema of the Accessory Cavities of the Nose, with their histories and symptoms, the treatment instituted, the results obtained and the bacteriological finding, rather than to discuss the subject theoretically or review the literature relating to it.

Case 1.—R. B., male, age twenty-six. The patient contracted syphilis six years ago. Eight months before he was first seen by me, the bicuspid teeth in the left superior maxilla became sore and loose and the second bicuspid was extracted. For three weeks small spiculæ of necrotic bone were discharged from the alveolus of the removed tooth and a fistulous tract was established between the mouth and the left antrum, through which there was a profuse purulent discharge. At the same time there was a syphilitic destruction of the left inferior turbinal and adjoining antral wall and a perforation of the palate. When first examined by me, the right side of the face was swollen, particularly over the antrum, and was exceedingly painful. The right eye was closed by the swelling and pus was slowly oozing from the *puncta lachrymalia*. There was a small gumma involving the right inferior turbinal and a profuse purulent discharge in the right fossa. Experimental puncture of the right antrum confirmed the diagnosis of empyema. In washing the antrum, a little pus and water flowed out through the *puncta lachrymalia*, showing that there was a direct communication between the nasal duct and the antrum. The antrum was opened through the canine fossa by Dr. Crile, and, as the *ostium maxillare* was somewhat occluded, a counter opening was made into the antrum through the inferior meatus. The antrum was then freely washed several times daily with a five per cent boric solution and rapidly increasing doses of potassium iodide were given. The swelling and pain on the right side of the face disappeared and the purulent discharge from the antrum rapidly decreased. The patient has reported to me three times during the past year to continue anti-syphilitic treatment but has had no return of the antral trouble. This was evidently a case

*Read before the Cleveland Medical Society, February 28th, 1898.

of antral empyema secondary to syphilitic necrosis. In the pus obtained from the antrum by puncture there were numerous *streptococci pyogenes*, capsulated *diplococci lanceolatus*, and short thin bacilli (probably Friedländers') all pathogenic for guinea pigs.

Case 2.—D. M., female, age fifty. Two months before the patient was first seen, she had influenza and had since had a continuous purulent discharge from the right nasal fossa, accompanied by pain and tenderness in the right antral region and headache. The right antrum was punctured and the diagnosis of antral empyema confirmed. A permanent opening into the antrum was then made through the inferior meatus and the antrum washed twice daily with a ten per cent solution of hydrogen dioxide. The anterior ethmoidal cells were also involved and were thoroughly curetted. The discharge decreased steadily and at the end of two weeks had ceased. In this case the empyema was secondary to influenza. The pus contained the *staphylococcus pyogenes aureus*, pathogenic for rabbits, and the influenza bacillus.

Case 3.—M. W., female, age forty-two. The patient has had a purulent discharge from both nasal fossæ for more than twenty years. About the time the purulent discharge first appeared in the nose, she had all her upper teeth extracted, as they were all badly decayed. When first seen by me both nasal fossæ were filled with polypi and one large polypus filled the naso-pharynx. Nasal respiration was impossible, the sense of smell was lost and tinnitus aurium was constant. The polypi were all removed; the left antrum was then punctured and six c.c. of thick, stinking pus obtained. A few days later the same condition was found in the right antrum. Both antra were then opened through the inferior meati, but these openings showed a continual tendency to close and so the antra were drilled into through the mouth, just above the alveolar processes and aluminum tubes inserted through which the patient washes her antra daily. The ethmoidal cells on both sides were involved and were curetted. The anterior end of the left middle turbinal was removed and the left frontal sinus treated through the nose. The same treatment is now being carried out on the right side. The history suggests dental caries as the probable cause of the empyema in this case. Pus from the antra and left frontal sinus shows *streptococci pyogenes* in pure culture in large numbers, pathogenic for rabbits.

Case 4.—C. N., male, age seventy-one. The patient gave a history of purulent discharge from both nasal fossæ for forty years. Recently after an exposure in the rain the discharge from the right fossa ceased suddenly and he immediately began to feel some pres-

sure around the right eye which steadily increased and within thirty-six hours the pain around the eye and frontal headache became very severe, and the eye was pushed forward and outward. In this condition he visited three physicians, by one of whom the diagnosis of cancer was made and an operation urged but refused. Meanwhile the pain and exophthalmus increased. Dr. Sherman was then consulted and the diagnosis of frontal and ethmoidal empyema, with retention was made by him and the right frontal sinus was promptly opened externally and the ethmoidal cells on this side curetted and free drainage into the nose established. The pain and exophthalmus rapidly decreased. Puncture of both antra confirmed the diagnosis of bilateral empyema and the antra were opened through the alveolar processes of the superior maxillæ. The pus contained the *streptococcus pyogenes* and the *staphylococcus pyogenes aureus*. The patient finally drifted into the hands of a Christian scientist and died of septicemia.

Case 5.—R. W., female, age fourteen. Two weeks before the patient was first seen she had a severe coryza, followed by a continuous purulent discharge from the right nasal fossa, some pain over the right antrum and headache. After careful examination the right antrum was punctured and about four c.c. of pus were obtained. Much to my surprise, after this single washing of the antrum the purulent discharge ceased entirely, and at the end of three months there had been no return. Cultures from the pus showed the *diplococcus lanceolatus* and a bacillus, apparently the psuedo-diphtheria bacillus, which was not pathogenic for animals.

Case 6.—R. H., male, age thirty-two. Four years ago the patient had influenza and has since had a purulent discharge from the right nasal fossa, frequent attacks of right-sided facial neuralgia, with extreme tenderness over the right antrum, persistent severe headache and general malaise. The second bicuspid tooth on the right side had been removed two years previous. The antrum was opened through the alveolus of the removed tooth and a tube inserted. The patient washed the antrum twice daily and four months later, when he was first seen since the operation on the antrum, he reported complete relief from headache and neuralgia, a marked improvement in general health, and only a very slight discharge from the antrum. Cultures from the pus obtained at the time of operation contained the *staphylococcus pyogenes aureus* in pure culture.

Case 7.—L. W., female, age twenty-two. For the past three years she has had trouble with the first and second bicuspid teeth in the left superior maxilla. The gold crowns put on by her dentist had

been coming off continually and the gums were sore and ulcerated. There had been a continuous purulent discharge from the left nasal fossa for fifteen months. About six c.c. of creamy pus were obtained from the left antrum by puncture. The first and second bicuspid teeth were then extracted and the antrum opened through the alveolus of the second bicuspid and a tube inserted. The fangs of both teeth were badly decayed. The antrum was washed twice daily by the patient with a ten per cent boric solution, and at the end of four months the discharge had ceased and the tube was removed. For two months the antrum gave no trouble whatsoever; there was no discharge into the nose or mouth. The patient then had a coryza with a return of the discharge from the antrum, which ceased again after washing for three weeks, and for the past four months there has been no discharge. Cultures from the pus showed the *staphylococcus pyogenes albus* and a fungus growth which was not pathogenic for animals.

Case 8.—M. D., female, age seventeen. The patient is anemic and neurasthenic and has an atrophic rhinitis, with only slight crust-formation and odor. There is quite a profuse purulent discharge in the left nasal fossa, tenderness over the left antrum and headache. The left antrum was punctured and about five c.c. of thick pus obtained. Iron was given internally for the anemia and a spray for the nose. The purulent discharge from the antrum decreased, and after washing the antrum again at the end of one week ceased entirely. The atrophic rhinitis of course persists, but there has been no return of the purulent discharge from the antrum. The *staphylococcus pyogenes albus* was found in the pus.

Case 9.—K. P., male, age thirty-three. Six months before the patient was first seen he had influenza followed by a continuous purulent discharge from the left nasal fossa, pain over the left antrum and headache. The pain had steadily increased and the tissue over the left antrum was swollen. About eight c.c. of thick pus were obtained from the left antrum by puncture and a permanent opening drilled into the antrum through the inferior meatus. The antrum was then washed twice daily with a five per cent boric solution. Frequently in washing the antrum the outflow through the *ostium maxillare* would stop suddenly, and if pressure was used to force the solution through, the patient complained of pain; if some of the solution was allowed to run out through the artificial opening in the inferior meatus, the washing of the antrum could usually be continued. This sudden closing and opening of the *ostium maxillare* should have suggested the possibility of a tumor or something in the

antrum which could be floated over against the natural opening and so close it. One month after operating on the antrum, facial erysipelas developed, and a few days later the patient died of septicemia. At the necropsy the mucous membrane of the antrum was inflamed and thickened and œdematous on the floor. At the angle formed by the superior and posterior walls of the antrum and about in the median line, there was a pear-shaped tumor, about twenty-six m.m. long and eight m.m. in its greatest diameter; its point of attachment was three m.m. in diameter and its pedicle long and narrow. Evidently in washing the antrum this tumor would be floated over against the *ostium maxillare* and so stop the outflow. Microscopical examination showed the tumor to be an ordinary mucous polypus; the pus contained the *streptococcus pyogenes* in pure culture.

Case 10.—G. S., male, age forty-three. One month before the patient was first seen he had influenza, followed by a continuous purulent discharge in the left nasal fossa and slight tenderness over the left antrum. The antrum was punctured and about eight c.c. of creamy pus were obtained. The antrum was then thoroughly washed and for three days there was no purulent discharge, but on the fourth day pus was seen in the left middle meatus, and the antrum was again punctured and washed; this was repeated twice at intervals of three days and the discharge then ceased entirely. The pus contained the *streptococci pyogenes* in large numbers.

Case 11.—M. M., female, age twenty-four. Six years ago the patient had a severe coryza, followed by a purulent discharge in the left nasal fossa; four years later the second bicuspid tooth in the left superior maxilla was extracted and the antrum opened through the alveolus of the removed tooth, and washed daily with marked relief, but a slight purulent discharge from the antrum still persisted. The opening through the alveolar process into the antrum, which had been gradually becoming narrower, was enlarged and a tube inserted, through which the patient washed the antrum twice daily with a five per cent boric solution and the discharge has now ceased. The pus from the antrum contained the *staphylococcus pyogenes albus* in pure culture.

Case 12.—M. V., male, age eighteen. The second bicuspid tooth in the left superior maxilla was badly decayed and for one month there had been a purulent discharge in the left nasal fossa. About six c.c. of creamy pus were obtained from the left antrum by puncture. The tooth was then extracted and the antrum opened through the alveolus of the removed tooth and washed daily for two months, when the discharge ceased.

Case 13.—C. S., female, age thirty.

Case 14.—A. L., male, age twenty-eight. In each of these cases the right antrum was affected, probably secondary to dental caries. The diagnosis of antral empyema was confirmed by experimental puncture, pus being obtained in both cases and the antra opened through the alveoli of the removed teeth. The pus from these three cases (12, 13, 14,) was not examined microscopically.

Case 15.—F. V., male, age seventy-six. About twenty years ago the patient had a severe coryza, followed in a few days by headache, most marked in the right frontal region. The headache soon became excruciating, the tissue over the right frontal sinus and the right upper eyelid was swollen and there was an exophthalmus of the right eye. There was no discharge from the nose. A few days later the right frontal sinus ruptured spontaneously, about midway between the supra-orbital notch and the internal canthus of the eye, and has continued to discharge through this fistulous opening. The sinus can be freely probed and is unusually large. All operative treatment was refused by the patient. The pus contained the *staphylococcus pyogenes aureus*.

Case 16.—H. C., male, age twenty-nine. After an attack of influenza there had been a continuous purulent discharge from the right nasal fossa for five weeks, accompanied by headache and an uncomfortable feeling of pressure around the right eye. The tissue over the middle turbinal on the right side was swollen, œdematous and exceedingly sensitive, and was covered with creamy pus. Affection of the right antrum and frontal sinus was excluded by careful examination and probing, and the diagnosis of ethmoidal empyema made. The ethmoidal cells were curetted and the discharge was rapidly decreasing when the patient disappeared.

In the sixteen cases, both antra were affected in two cases; in one of these both frontal sinuses and the ethmoidal cells were also involved, and in the other the frontal sinus and the ethmoidal cells on the right side.

The right antrum and ethmoidal cells were affected in one case.

The right antrum alone was affected in five cases; the left antrum alone in six cases.

The right frontal sinus was affected in one case, and the ethmoidal cells, on the right side, once.

In five cases the purulent infection was secondary to influenza; in three cases it followed a severe coryza; in five cases it was probably secondary to dental caries; in one case it was due to syphilitic necrosis and in two cases no definite cause could be assigned.

In all cases, in making the diagnosis, the antrum was considered first, then the frontal sinus, then the ethmoidal sinuses, and then the sphenoidal.

Whenever the antrum was punctured, a straight trocar was used and the puncture made through the inferior meatus well up under the middle third of the inferior turbinal.

The antrum was involved sixteen times in all; once, in an acute case, it was treated by an opening through the canine fossa, with complete cure; five times it was treated through the inferior meatus with four cures in acute cases and marked improvement in the fifth, a chronic case. In ten cases the antrum was opened and treated through the alveolar process of the superior maxilla, with three cures in one acute and two chronic cases and marked improvement in five chronic cases, in two of which both antra and the frontal and ethmoidal sinuses were affected.

The frontal sinus was involved four times in chronic cases; once alone, and all treatment was refused by the patient. In one case the antrum and ethmoidal cells on the same side were involved and the frontal sinus was treated by an external operation with marked improvement. In the third case, both frontal sinuses, as well as the antra and ethmoidal cells, were involved and the frontal sinuses were treated through the nose, with improvement.

The ethmoidal cells were involved in two acute cases; once alone and once with the antrum on the same side. In both of these cases thorough curettement of the cells resulted in complete cure. In two cases the ethmoiditis was chronic; in one the antrum and frontal sinus was involved and in the other the ethmoiditis was bilateral and both antra and frontal sinuses were involved. In these two cases the condition was improved by curettement.

In the cases in which an aluminum tube was used to drain the antrum into the mouth, the tube was made and inserted by J. F. Stephan, D.D.S.

In those cases in which the pus was studied bacteriologically, the work was done by Dr. W. T. Howard, Jr., and myself. The pathogenesis of nearly all the organisms found was determined by inoculation experiments with guinea pigs and rabbits. Tubercle bacilli were never found. Besides bacteria and polymorphous nuclear leucocytes, which were present, in nearly all cases, large swollen cells, epithelial in appearance, were seen.

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EPITHELIOMA OF THE NASO-PHARYNX.

BY EDWARD J. BROWN, M.D., MINNEAPOLIS, MINN.

In January, 1893, E. T. E., aged forty years, in good, general health, came to me complaining of tinnitus aurium of some years standing.

I found chronic aural catarrh, right nasal stenosis from a thickening of the cartilaginous septum, and at the naso-pharyngeal vault two growths, in appearance not unlike adenoid growths, which I have seen in other adults. Each had a base about one-half inch in diameter and a somewhat greater length, being quite regularly conical in shape. In the course of a few week's treatment these growths were removed with cold wire snare with no suspicions that they were other than what they appeared—adult adenoids.

In July, 1896, three and one-half years later, he returned. In February of that year, after two days of severe pain in the head, there had been a "noise in the right ear as though the plastering of the room had fallen." Noises and deafness had continued ever since. He had lately lost weight. The right ear heard the watch on pressure, L. at sixteen inches. Bone conduction better than aerial. I found both sides of the naso-pharyngeal vault occupied by growths somewhat larger than those originally removed, extending to the mouths of the Eustachian tubes, and of a dirty white color. Both sides of the neck contained enlarged glands. I now learned that his mother had died of a tumor in the stomach or abdomen. I made a diagnosis of malignant growth and frankly stated the prognosis. A part of the growth was snared and submitted to Dr. George Head, whose microscopic diagnosis was *epithelioma*.

In January, 1897, he again returned. A few days after consulting me in July, he had sought the advice of a distinguished surgeon in a neighboring city. The latter had removed some of the growth with his finger, and called the growth "proud flesh" and given a favorable prognosis. The growth has extended somewhat, obstructing the right Eustachian orifice and involving the posterior wall of the vault. The glands in the neck have grown, one being half as large as a hen's egg. He is still at work, and thinks he has not lost weight. February 6, the vault is so filled as to make breathing through the nose difficult. The soft palate is very hard and stiff. Enough of the now soft and cauliflower-like growth was removed to

afford breathing space. May 4, has been ill in bed and now has severe pains in his head, especially at night. September 14, I have always dissuaded him from having the glands in his neck removed, but he has lately been in the hands of some homœopathic surgeons who have removed the glands and given him decided relief from the pain in his head. I removed masses of the growth on several occasions up to October 13. As he now had grown weary of these operations, I contented myself during the rest of the time he was under my observation—some two weeks—with injections of absolute alcohol into the growth, but with no appreciable effect. Death occurred in December.

Adenoids as an Etiological Factor in Orthopedic Deformities—

FREDERICK S. COOLIDGE, Chicago—*Medicine*, July, 1898.

The author has come across several private cases of beginning deformity of a complex type associated with adenoid growths in the vault of the pharynx, and cites half a dozen cases to demonstrate his point.

Granted that adenoids might have some connection with orthopedic deformities, what could that connection be?

1. Both adenoids and deformities might be an expression of degeneracy.

2. Deformities might occur as a direct result of mechanical obstruction to breathing.

3. Orthopedic deformities occur in tubercular joint disease, which may have had their source of infection either directly or indirectly from adenoid vegetations.

4. Deformity may result directly from reflex irritation of the neighboring nerves by adenoid growths.

5. Lastly and most important, adenoids may cause such a lowering of the general nervous vitality that they may be considered almost the direct cause of some of the atypical orthopedic deformities whose etiology is unknown.

The writer considers the adenoid growths and deformities to be somewhat closely connected. The deformities for the most part being bilateral, we must look rather for some general cause rather than a purely local one, and might not the nervous depression following adenoids well be one of those general causes?

MACLEAN. (BISHOP.)

RECURRING PAROTITIS IN A HEALTHY CHILD*.

BY FAYETTE C. EWING, M.D., ST. LOUIS, MO.

Fellow of the British Rhinological, Laryngological and Otological Association, Etc.

Ephraim M., son of the writer, since the second year after his birth has been subject to recurring attacks of swelling and inflammation of the parotid glands, apparently idiopathic. The swelling has always manifested itself suddenly, as a rule developing to its fullest extent during the night, with little or no constitutional symptoms.

With one exception it has been unilateral. These attacks have occurred at irregular intervals of a few months to a year, becoming notably less frequent as the child has grown older. They are attended with pain on pressure and mastication, but it is never intensely acute.

There has been no attendant enlargement of the lymphatics, nor the slightest hypertrophy after subsidence of the acute symptoms.

These swellings have always disappeared without treatment within three days, generally decreasing somewhat in twenty-four hours.

Fever has been absent. The subject is a vigorous boy, aged eight, and considerable of an athlete for his years. He has never been specially subject to colds, nor shown the catarrhal diathesis. Family history good, phthisical history confined to two great-aunts.

He will be remembered by Dr. Dundas Grant, who removed his hypertrophied tonsils during the writer's stay in London, 1893.

There were no adenoids. The last return of the swelling was on the left side six months since.

To confirm my diagnosis that the swelling did not affect the lymphatics, I took him to Dr. P. Y. Tupper, of St. Louis, who fully acquiesced in my opinion.

Numerous, and the latest standard works on general surgery and pediatrics have been consulted to find some mention of conditions to parallel this, but with negative results.

The nearest approach are probably the five "obscure" cases reported by Raymond Johnson, *Lancet*, April 1896. He clearly eliminates as an etiologic factor, mumps, enlarged lymphatics, calculus and the sympathetic parotitis of pyemia, typhoid and the complicating swellings of abdominal diseases and injuries, emphasized by Mr.

*A paper read before the British Rhinological, Laryngological and Otological Association at its Quarterly Meeting, London, January, 1898.

Stephen Paget which are due to the inflammation of the lining of Steno's duct.

In Mr. Johnson's cases the gland was tender to touch, but not acutely so, it was also hard and occasioned discomfort in mastication.

The ages ranged from fifteen months to thirty-three years. In several slighter cases, the socia parotidis alone was affected, and in one case it was attacked first. The conclusion was that the swellings were due to the inflammation of the lining membrane of Steno's duct, preventing the outward flow of the secretion. The case herein reported resembles the Johnson cases in its behavior and obscure origin, being evidently without connection with the ordinary and well-known causes of parotid inflammation.

Without feeling justified in a positive opinion, the writer is inclined to consider this a case of simple infectious disease of the duct of Steno (said duct probably extra patulous) causing swelling of the gland by a microbe, the identity of which is unknown. In the *Journal de Med., Ed. de Paris*, January 1, 1896, Regnier, surgeon to the Laribiosiere, reports three cases of infection through Steno's duct, but with an accompanying constitutional disease, and points out the fallacy of considering parotid inflammations invariably caused by secondary inflammation of the lymphatic glands.

The glandular pockets are infected, the result of inflammation of the canaliculi. The inflammation originates in the mouth.

Chassaignac was the first to direct attention to this variety. He declared it to be canalicular.

Virchow and Weber also observed cases where pus and lesions were in the canals and alveoli. Grog, as far back as 1873, attempted to prove that all parotid inflammations with a general cause, are secondary to some inflammation in the mouth which extends to the gland. More recent histologic and bacteriologic researches of Dupre and Claisse are confirmatory of this position.

We may justify this supposition by our knowledge that the liver, kidneys and breasts may be infected through their secretory ducts. Further, we know that an abscess is most likely to occur in cases of lymphatic origin, while the knife will bring little or no pus at the time when the inflammation is in the glandular pockets, though it may be pressed out later. Duplay's work on pathology affirms that infection may arrive by way of the lymphatics, but in such event it is not the parenchyma of the gland, but the lymphatic ganglia that are affected. Since the abscess resulting from lymphatic infection always shows pus on opening, it is important to consider the location

when diagnosing. We herein conclude that infection may reach the parotid glands either by way of the lymphatics or through their excretory canals. In the one case we have Chassaignac's canalicular parotid inflammation or acinous adenitis, and in the other, simple adenitis.

The mildness of the attacks in the case here reported is taken to mean that the pathological process never advanced to pus formation. Hence, the designation above, "simple infectious." The unusual good health, absence of fevers and constitutional disturbances, mildness and rapid subsidence, absence of concurrent affection and repeated recurrence, seem to render the case worthy of discussion.

The Surgical Treatment of Malignant Disease of the Larynx—

D. B. DELAVAN—*Therapeutic Gazette*, Vol. xxii, No. 7.

Indications are beginning to appear which show that the future of this class of patients is not as dismal as one would suppose, judging from statistics of past years. Of late the proportions of successful operations has been quite satisfactory. Though the operations are of recent date, the work recorded in them should be carefully considered. Three groups of operations are offered: (1) Thyrotomy, with or without partial laryngectomy; (2) complete laryngectomy by the Solis-Cohen method; (3) complete laryngectomy in cases of extensive laryngeal disease with glandular involvement.

1. Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by an operation in the absence of a decided indication to the contrary, and the operation should be performed with the least possible delay.

2. Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within reach of free removal, justifies an exploratory thyrotomy in a suitable patient, and in the absence of infiltration of the surrounding structures and of affection of the lymphatic glands.

3. The method of operating as pursued by Butlin and Semon is recommended. In the case operated upon by J. Solis-Cohen, the several ends of the trachea were brought to the external edges of the cervical incision and there retained, thus cutting off communication between the pharynx and lungs. The advantages of this procedure are very evident. The danger from inspiration pneumonia is greatly lessened; swallowing is easily accomplished; the power of phonation can be satisfactorily acquired (as shown in three cases operated upon in this manner); the patient's comfort is greatly increased, as the wearing of an artificial larynx is not necessary.

LEDERMAN.

THE HEARING CAPACITY OF DEAF MUTES*.

BY PROFESSOR VICTOR URBANTSCHITSCH, VIENNA.

Translated by

M. A. GOLDSTEIN, M.D., ST. LOUIS.

In a series of examinations, with my special accordion, of eighty pupils of the Hebrew Institute for the Deaf and Dumb in Vienna, the answers of seventy-two were proven reliable in that they could distinguish with certainty between a simple blast of air and musical tones, as produced by the accordion.

Of these seventy-two deaf mutes, thirty were of congenital origin and forty-two acquired deafness. Of the seventy-two cases, fifty-four heard all of the tones of the harmonium, ranging from contra A to F^{IV} with both ears.

A comparative test of both ears elicited these results: in nineteen cases the amount of hearing was the same in both ears; in eleven cases, hearing better in right ear; in twenty-three cases, better hearing in left ear: in one case the low and middle tones were heard better with the right ear, and the deep tones with the left ear. This confirms my previous experience that in deaf mutes the hearing faculty is better developed in the left ear.

Of the remaining eighteen cases, three heard all of the tones with one ear (complete deafness in two of these cases in the other ear; in the third case, partial deafness in other ear); fourteen cases indicated partial deafness, one case exhibited complete bilateral deafness.

The results of these tests in seventy-two cases of deaf-mutism confirms my previous observations, that complete deafness occurs rarely, even in deaf mutes, viz: in seventy-two cases where both ears were tested, only in one case (both ears) and in two cases (one ear) was total deafness demonstrable; in one hundred and forty-four tested ears, therefore, only three of total deafness. More frequently a partial deafness exists. Thus in one hundred and forty-four cases, thirty were found, viz: five cases failed to hear deep tones, eleven could not hear high tones, eight could appreciate neither deep nor high tones; in three cases there was a loss of hearing for certain single tones, the other tones of the scale being heard. This failure to appreciate certain single tones was variable from

*Paper read at the Third Austrian Otologentag in Vienna, February, 1898.

time to time, so that tones previously heard were not again perceived, and tones not heard before were appreciated at another sitting.

A comparison of the results of my observations concerning deaf mutes with those of Bezold¹ show marked differences.

Thus Bezold found in a series of tests of one hundred and fifty ears: total deafness in forty-eight cases; slight sound perception in one hundred and eight. In not one of his cases, therefore, could all the tests and tones be appreciated. On the other hand, my own investigations were as follows: In one hundred and forty-four ears, total deafness in three; partial deafness in thirty; hearing perception for accordion tones ranging from contra A to F^{IV} (a range of nearly 6 octaves) in eleven cases.

There is also a decided difference in the amount of hearing defect in the reported series of our cases. The test tables accompanying Bezold's report indicate more marked and more numerous hearing defects than in the series of cases recorded by me.

The considerable disparity in the results obtained in these observations is, perhaps, not due to any marked functional differences in the ears of our respective patients, but rather to the difference existing between Bezold's and my method of testing the hearing capacity.

In testing, Bezold uses a tone-scale (Tonreihe) comprising tuning-forks (contra C to A^{II}), reed pipes, and the Galton whistle for the higher tones.

In my brochure, "Aural Gymnastics in the Training of the Deaf" (Vienna, 1895, p. 20 and p. 40, Urban & Schwarzenberg, publishers), I emphasize the fact that the weak sounds of the tuning forks are not perceived with the first tests, but that a continued application results in a gradual appreciation of sound, capable of considerable improvement by diligent practice.

I also maintained in my previous communications that tuning-forks and delicate sounds from other sources frequently fail to elicit any sound perception, so that the large class of deaf-mutes tested in this manner, would consequently be recorded as "absolutely deaf." This same class of deaf-mutes, tested with loud vocal tones, give evidence of sound perception and by systematic training with the voice develop an unmistakable hearing capacity.

On the strength of these observations, I have excluded tuning-forks and all similar testing mediums of delicate sound, even in my earliest endeavors in this direction in 1893 and 1894, as I considered them entirely inadequate in this class of cases. I have sub-

1. Das Hörvermögen der Taubstummen, Wiesbaden, 1896, S. 54.

stituted the powerful tones of the accordion. For this purpose I had a large-sized accordion constructed, arranged to produce the single tones of the musical scale from contra F to F^{IV}, a range of 6 octaves. Each tone can be separately produced in varying intensity and prolonged at will.

The great volume of tone which can be produced by this accordion has thus often many advantages over those of the tuning-fork, reed, etc.

Frequently it is necessary to maintain a prolonged tone of the test-note to excite sound-perception; sometimes this perception is excited only after accentuation of the tone. In numerous instances even I have recorded an absence of perception for a certain tone at one sitting, and a definite appreciation of this same tone at a subsequent testing, and vice versa.

Thus the delicacy of these tests can be appreciated, and the necessity of several tests to verify results is apparent.

If such difficulties present themselves when testing with the very intense and penetrating tones produced by my special accordion, they are of course manifoldly greater when weaker testing instruments, such as tuning-forks and reeds, are employed.

Thus it can be easily understood that the same deaf mute, subjected to a series of tests with test-instruments of widely differing intensity of tone, will indicate a great disparity in sound-perception.

I have repeatedly verified the above by comparatively testing a number of deaf mutes, first with the testing system employed by Bezold and then with my special accordion, and have obtained the most marked difference in results, viz: with the Bezold system the indications were those of complete deafness for the entire musical scale, while with the intense accordion tones they were definitely appreciated.

I am convinced that in even many cases thus accorded negative, decidedly more favorable results could have been obtained if louder and more intense testing tones could be employed, and also that many tones, not appreciated at the first sitting, would be definitely heard at successive trials; and that such tones admit of perception only after considerable stimulation of a latent and sluggish sense of audition. This fact is of considerable practical importance, as it demonstrates the difficulty of differentiating complete deafness from an auditory apparatus, capable of being stimulated by patient and energetic measures, and that failure to elicit an auditory perception in the first trials does not justify us in pronouncing such cases as "absolutely deaf."

If a careful test convinces us that there is hearing perception in a given case, even though it be of slightest degree, there is every possibility of developing a considerable hearing faculty. The progress made with the systematic aural gymnastic training, as practiced in the Oberdöbling Institute for the Deaf and the Hebrew School for Deaf Mutes in Vienna, and the Sisters of St. Joseph School for the Deaf in St. Louis, is illustrative of the results which can be obtained by patient and careful work in this direction.

A number of instances are recorded in these schools, where the first tests gave negative results, and only after repeated sittings could any perception of sound be determined. Some of these pupils, after patient training by the systematic aural exercises, developed a surprising degree of hearing. One young deaf mute made such excellent progress in the course of one year that he could accurately hear entire sentences, spoken in a loud voice at close range.

I also wish to protest against the use of the weak-testing tones of the Bezold "Tonreihe," as they are of little practical importance in determining sound-perception in deaf mutes.

In cases pronounced "absolutely deaf" by these tests, I have cultivated a sound-perception for the speaking voice capable of remarkable development. This is conclusive evidence of the comparative value of the two systems of sound-testing here referred to.

Motor Excitation in Deaf-Mutes on Whom Acoustic Exercises Are Practiced—GELLÉ—*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, April 23, 1898.

As the sense of hearing is awakened in deaf-mute children, on whom acoustic exercises are practiced, a profound change takes place in their manner. They become noisy, agitated, sometimes turbulent and restless, and will cry and gesticulate. All the faculties of the child, such as the memory, power of repetition and expression, and efforts at articulation are benefited by the acoustic exercises. This explains the rapid progress made by young children (three to seven years old).

SCHEPPEGRELL.

CHRONIC SUPPURATIVE OTITIS MEDIA; THE INDICATIONS FOR TREATMENT*.

BY WILLIAM LINCOLN BALLENGER, M.D., CHICAGO.

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This is a most important subject, as great damage attends the chronic suppurative process in the middle ear, and associated cavities. It is a significant fact that insurance companies refuse applicants having this affection. They, perhaps, do not fully appreciate the pathologic import of the disease, but they do recognize the fact that such risks die before their expectancy is reached. In other words, they know that those thus afflicted die at a much earlier age than those not similarly affected.

McEwen¹ and others have shown very clearly that the general health is impaired, the liver, kidneys, etc., often affected with amyloid degeneration, the meninges and brain infected, and the lungs thrown in the pneumonic process from infected emboli. With impaired vitality, amyloid liver and kidneys, meningitis, cerebral abscess and pneumonia in the wake of chronic suppuration of the middle ear, is it any wonder life insurance companies refuse to issue policies to those having chronic otitis media suppurativa? I am further justified in presenting this old and well-worn subject by the reflection that these conditions are not generally recognized by the medical profession as having their origin in this way. They recognize that many cases die from acute mastoid developments, but, the trend of my remarks is to the effect that many are menaced by death through the complications named where there are no acute mastoid symptoms. Cases are reported as having pneumonia or meningitis, with no reference to the ear disease, which may have been the cause. Meningitis and brain abscess are well recognized as having their origin in acute mastoiditis. There are probably as many deaths from such complications, arising from chronic otorrhœa, as there are from acute mastoiditis. Without acute symptoms there may be bone necrosis extending through the walls of the attic or antrum, giving rise

*Read before the Western Ophthalmological, Otological and Laryngological Association, April 8, 1898.

1. Pyogenic diseases of the brain and spinal cord.

to brain abscess by direct extension of the pathologic process. Meningitis and brain abscess may also be caused by infected emboli without bone necrosis. When a mucous membrane is in a state of chronic inflammation, thrombi are formed in the arteries and carried as emboli to the meninges, brain, lungs, etc. If the thrombi are infected with pathogenic microorganisms, the invaded part succumbs to inflammatory reaction.

It appears, then, that otitis media suppurativa chronica is a more formidable pathologic process than it is usually given the credit of being. We cannot at this time say, with any degree of certainty, how many, or even what percentage, die annually from complications secondary thereto. And we should be on the lookout for them by making careful inquiry in all cases of pneumonia, meningitis, etc., which come under our observation. Large hospitals could, within a few years, furnish valuable data upon this subject.

The indications for treatment should, in a general way, be based upon the pathology. (*a*) In the early stages we have to deal with a pus-secreting membrane which is congested and infiltrated with round cells. The pus at this stage is practically limited to the tympanic cavity; the attic, antrum and air spaces of the mastoid not being seriously involved. Later on, there is hypertrophy of the membrane. This is soon followed by fatty metamorphosis and degeneration of the round cells. In this way the membrane is impaired in functional activity. Granulations follow, and, if they are pedunculated, are called aural polypi. They are due to a partial hyperplasia, the hyperplastic material forming constrictions at the base of the granulations, thereby making them pedunculated. (*b*) The second pathologic division is that in which the round cells are converted into spindle cells, giving rise to firm connective tissue bands. These bands may embrace the ossicula, binding them together, and to the walls of the tympanum and attic. The ossicles, more especially the incus and malleus, are often necrotic in this stage. (*c*) The third stage includes the first and second, with the addition of degeneration of the mucous membrane, extending through the periosteum. The bone beneath being thus deprived of nourishment undergoes necrosis, which may involve the attic, antrum and air spaces in the mastoid.

Under these three divisions we will consider the treatment, keeping in mind the general facts as to meningitis, amyloid degeneration, pneumonia, etc., referred to in the earlier part of my remarks.

The simple suppurative cases are limited to the middle-ear cavity, without serious involvement of the attic or antrum. The membrane

is hyperemic, hypertrophic and secretes pus. The *membrana tensa* is either wholly destroyed (this being especially true in those cases following scarlet fever and diphtheria) or perforated, the opening being from the size of a pin-point to that of a split pea. In these cases the whole proposition is one of surgical cleanliness. This can best be attained as follows: If the secretion is profuse or tenacious it should be removed by syringing with a warm boric acid solution. If the tympanum is not thoroughly cleansed by this process the patient should incline the head to the opposite side while pyrozone is instilled into the ear; Politzerization should now be practiced to force pus into the external meatus, and to allow the pyrozone to more freely enter the tympanic cavity. The debris should now be mopped out, and if the membrane is swollen and granular, alcohol, 50 to 95 per cent, instilled. This should be left in the ear for from five to ten minutes. It not only takes up the water remaining after syringing, but it abstracts serum from the engorged membrane, and reduces the granulations by coagulating the albumin therein. The ear should again be mopped quite dry and packed with simple sterilized gauze. The packing with gauze is a very important part of the treatment, as it prevents further infection from without, and militates against the development of germs within the middle-ear cavity, by withdrawing the serum, etc., which, if allowed to remain, acts as a culture medium for the pus germs. In other words, it is a protective dressing and a drainage tube. The gauze should be removed by the attending physician in from six to twenty-eight hours, according to the amount of discharge.

With attic suppuration, necrosis of the ossicula and cicatricial bands there may or may not be perforation of the *membrana flaccida*. If the *membrana tensa* is almost or entirely destroyed, the *membrana flaccida* (Schrapnele's membrane) is often intact. If a careful examination is made, pus may be seen running down the long process of the incus. This ocular demonstration points clearly to attic disease of a more or less serious nature. The ossicula, more especially the incus, are probably necrosed. The walls of the attic and antrum may also be involved in the necrotic process. But in this division we are considering only those cases in which the ossicles and other tissues, forming the floor of the attic, are diseased and offer an obstruction to drainage.

Perhaps it is well to begin the treatment as for the simple suppurative cases. Some of them will improve, especially if there is no necrosis of the ossicles, and there is fair drainage through the floor of the attic. If, however, there is necrosis of the ossicles, and the floor

of the attic offers resistance to the flow of pus, more radical methods must be adopted. The malleus and incus, together with the fibrous and ligamentous material forming the floor of the attic, should be removed. This may be done as an intratympanic operation. Cocaine anesthesia has been unsatisfactory in most cases. A general anesthetic is more desirable, as it gives the aurist plenty of time to carefully remove all offending material, and to explore the attic walls for evidence of further destructive processes.

Necrosis of the attic and antrum walls, accompanied by chronic suppuration (in contradistinction to the acute mastoid symptoms) calls for radical surgical interference in many cases. It is in these cases that we should do the radical tympano-mastoid operation. In my opinion it is culpable neglect, should the physician fail to recommend radical operative interference. The attic and antrum are filled with granulations and necrotic material, pus is secreted, fatty metamorphosis and degeneration of the mucous membrane is in progress, and the bony walls of the attic, antrum and mastoid cells are breaking down by bone necrosis, thereby placing the patient in constant danger of meningeal, pneumonic and other serious complications. It is true that nature provides in a measure against these dangers, by throwing provisional calluses about these necrotic areas, but it is equally true that she often fails to prevent a fatal issue.

There has been an inclination, even among aurists, to make a plea for conservatism in the treatment of chronic suppurative diseases of the middle ear. Now, I believe in conservatism most heartily, but I do not believe in cowardly conservatism, based upon ignorance and timidity. I believe in intelligent conservatism always. We should look carefully and intelligently into the cases intrusted to our care, and recognize the pathologic conditions with which we have to deal, and the consequences of neglect to properly treat them. If it is found an operation is needed, we, as aurists, should have the courage to do it. The dangers of postponing operation, as well as the dangers attending the same, should be frankly and fully explained to the patient and his family. There is no branch of surgery in which there is as much hesitation about recommending a radical operation as there is in otology. If rightly viewed there is no more fruitful field for surgical interference, with gratifying results, than there is in chronic suppurative disease of the middle ear. If the aurist is satisfied that there is necrosis of the attic or antrum walls, he should advise the radical operation, though the patient has never had acute mastoid symptoms.

The patient may thus be freed from the constant menace to life

and health, and the science of otology relieved somewhat from a suspicion of inefficiency, which now hangs over it.

I have seen cases come to the clinic on Tuesday with the ordinary symptoms of acute mastoiditis of one or two days standing, refuse operative interference, and return on Thursday in a semi-comatose condition.

Within the past week I have operated upon three mastoid cases, one of which has never had acute mastoid symptoms. Case —. Young lady, twenty-three years of age, had scarlet fever when two and a half years old, followed by constant offensive purulent discharge from left ear; membrana tensa gone. Ossicles intact, retracted and buried in a mass of connective and tendinous tissue, thus forming the floor of the attic. Had been under the care of aurists for more than one year, receiving classical treatment for simple suppuration of the middle ear. Odor and discharge unabated. I did not recommend ossiculectomy, as I was satisfied the antrum was also seriously involved. I did the radical tympanomastoid operation, and found the mastoid sclerosed and thickened. The air spaces were small and filled with granulations. The antrum was large and also filled with granulation and necrotic material. The canal leading from the antrum to the attic was of about the usual size. The conditions revealed by the operation justified the radical procedure, as nothing short of it would have checked the morbid process.

I wish to refer to one phase of another case: E. G., aged seventeen years. Right ear had been discharging for two months. Acute mastoid symptoms developed thirty-six hours before operation. Just prior to operation, the temperature was normal. Operation showed the mastoid process completely softened, so that when it was removed the dura was exposed. This case illustrates the fallacy of depending upon the absence of elevation of temperature as a contraindication to surgical interference. I refer to these cases in order to suggest that individual symptoms cannot be depended upon in deciding for or against operative interference. One must take a broad view of the pathology, its probable development and the dangers, remote and immediate, if the condition is not checked. Is there another cavity in the body that would be allowed to suppurate and necrose indefinitely without the attending physician offering measures for its cure?

CONCLUSIONS.

1. Life insurance companies refuse risks with those having chronic otorrhea.

2. The serious sequelæ are impaired health, meningitis, brain abscess, amyloid degeneration and pneumonia.
3. The relationship of these sequelæ to chronic disease of the middle ear is often overlooked.
4. Marked bone necrosis may exist for a long period of time without acute symptoms.
5. Treatment. In many cases the radical tympano-mastoid operation should be done, even though there are not, and never have been, acute mastoid symptoms.

100 State Street.

A Case of Abscess of the Cerebellum, Following Disease of the

Ear—T. S. KIRKLAND—*Australasian Med. Gazette*, Vol. vii., July 20, 1898.

The patient was a boy of 16 who had suffered from chronic otorrhœa for two or three years, and when seen had intense pain in the left ear, with a temperature of 103 coincident with cessation of the discharge from the ear. Membrana inflamed, with signs of pus in tympanum. Incision of membrana gave vent to offensive pus; pain somewhat assuaged, but temperature the same. On the third day mastoid swollen, and its cells were opened and found to contain a few drops of pus. On the following day there was severe pain of occiput, beginning left optic neuritis; right fundus normal. Vomiting, giddiness, drowsiness, normal temperature and pulse, with above signs, pointed to cerebral extension. The mastoid antrum was opened and cholesteatomatous masses removed and the cavity carefully cleansed. The skull was trephined one inch above the suprameatal wall; the dura bulged out with visible pulsation. A trocar was inserted, but no pus found; but on passing it into the lateral ventricle about two drams of cerebro-spinal fluid escaped. Believing that pus was still present, on the following day the skull was trephined over the cerebellum $1\frac{1}{2}$ inches behind the ear and $\frac{1}{4}$ inch below Reid's base line, and about $\frac{1}{2}$ dram of foul-smelling pus found. A drainage tube was inserted together with small pieces of the trephined bone. The discharge continued with the same odor for three weeks. The bad symptoms disappeared.

The author believes the case of interest from a diagnostic point of view. Occipital pain, persistent vomiting and retracted abdomen were the symptoms upon which he relied, together with transient retraction of the head. Though we are told by high authorities that cerebellar abscess is the result of extension along the lateral sinus, there was no localizing symptoms at any time, so that the subjective symptoms formed the basis for the localisation of the abscess.

EATON.

A RHINO-OTOLOGICAL CASE RECORD.

BY EDWIN PYNCHON, M.D., CHICAGO.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College;
Late Senior Assistant Aural Surgeon, Illinois Charitable Eye
and Ear Infirmary, Chicago.

For the past five years I have been continuously and progressively appreciating the need of a printed form for keeping record of nose, throat and ear cases. With the object of learning the experience of others I corresponded with quite a number of specialists in this department of medicine with the result of accumulating somewhat over sixty different forms. Those not using printed forms had been in the habit, as I formerly was, of making notes in an ordinary blank record book. Several of this class, having appreciated the want of a form such as is being considered, have requested a copy of mine as soon as completed, and a few also expressed a regret that their method had been so faulty.

Many reasons can be given as an argument in favor of the methodical keeping of notes of cases examined or treated, and they will apply with equal force in other departments of practice. In lines of trade we find the tailor and the shoemaker carefully preserving the measurements of their patrons; the druggist keeping on file the prescriptions filled; and the lawyer copies of declarations and briefs used in cases tried in by-gone years; and they all find that such data preserved is of future use, and, as time goes on, the collection increases in value. One of the most common criticisms of the profession of medicine is that its members are not good business men. If, in addition to his professional attainments, the physician can be improved as a business man, should it not add materially to his success? If granted, then let one of the first lessons taken from commerce be methodization, and this will involve a correct system of bookkeeping, not only of accounts, but of acts done, observations made and services rendered.

With the form I submit the first objection likely to be made is that it is "too full," that "too many questions are asked" and "that no one could find time to write down all the answers." In reply I will say that no patient, in any case, need be asked every question, and yet all material queries are given which would probably be required in any case met with, so for each patient there would be made only those notes which seem to be material. If later on more information

Date	Name				
	Residence		Tel. No.		
No.	Occupation				
	Business address		Tel. No.		
	Referred by				
Fees	Age	Sex	Height	Weight	
				Loosing	Gaining
	Where born		Single Married Widowed		
	How long in this climate				
	Previous residence				
	Chief complaint				
	Other symptoms				
Ledger Page	Onset				
Druggist	Supposed cause				
	Family history—Hereditary				
Tel. No.					

DATE	Operations
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

RIGHT	Examination of Larynx	LEFT
	Epiglottis	
	Ary-epiglottic folds	
	Arytenoids	
	Inter-aryt. space	
	Ventricular bands	
	Vocal cords	
	Abduction	
	Adduction	
	Trachea	
	Esophagus	
	Lungs	



Ear continued													
RIGHT	Date	G	C-1	C	C ¹	C ²	C ³	C ⁴	INFL.	ACOU- METER	GALTON	T.F.	T.F.
			84	128	256	512	1024	2048					
A									B				
B									A				
A									B				
B									A				
A									B				
B									A				
A									B				
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A									B				
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B									A				
A									B				
B									A				

is desired, there is then a proper place provided for its entry, and for future reference everything can be quickly found in its proper place, and herein is one of the strongest arguments in favor of the use of a printed form.

After considerable deliberation the method adopted was that of having for each patient a small blank book of appropriate size. In this way a liberal amount of space is given each case, and, if still more space be required, extra pages can be readily inserted. The size of book decided upon was 16 pages, each being $4\frac{1}{2} \times 7$ inches—the exact size of note paper. An extra good quality of paper is used and each book is bound in a heavy manilla cardboard cover. Any objection as to the greater cost of using this method sinks into insignificance when allowance is made for the saving in time and for the increased and more accurate knowledge acquired of the condition, as well as of the progress, to say nothing of the fact that, additionally, the first consultation fee is much more likely to be enhanced when a thorough history is taken. The book being small, the examiner can, with fountain pen, note and illustrate the conditions present while making the examination.

With this form of record book, as the patients are from time to time discharged, the books are filed away in drawers alphabetically, as is done with the library card catalogue. Thus, in place of several unwieldy volumes, there is kept upon the desk only the records of those cases under treatment at the present time, and when an old patient returns, for further treatment, his record is easily found in its proper place in the drawer, and then placed upon the desk with the other “under treatment” cases.

Some explanation may be *apropos* as to the contents and arrangement. The first dozen or more questions, down to and including “previous residence,” and a few other questions further on, have more or less of a commercial importance aside from their medical relevance. They had better be asked at the first interview lest they be neglected later on. This information may be of the greatest use in tracing the party at a later date, when collection of the bill is desired, providing the patient belongs to that class forgetful of past favors. In case of minors, the occupation and business address of parent or sponsor should be taken. Telephone numbers are asked in order to be able to communicate in the event of the necessity for breaking an appointment for operation or otherwise. It is furthermore desirable to have all addresses correctly given in view of the possibility of being called to the patient on account of any after complication as, for example, hemorrhage.

A blank space is left for fees, and I suggest the desirability of entering the same in cost mark characters, using any word with ten dissimilar letters, as for example:

¹	²	³	⁴	⁵	⁶	⁷	⁸	⁹	⁰	^X
C	U	M	B	E	R	L	A	N	D	X
P	E	R	T	H	A	M	B	O	Y	X
C	I	G	A	R	S	M	O	K	E	X

Thus \$75 would be L E, or M H, or M R, according to the word selected. The last character, or X, is a "repeater." For example, taking the first word, while C D X would mean \$100, C X D would indicate \$110, and as either the zero or repeater characters will serve as a "blind," when used as the first letter in the mark, X E or D E would mean \$5.

The advantage of having the original financial arrangement appear as an original entry, along with the following record of treatment, will be found of particular value if the necessity arises of forcing by law a claim for services. In such case the claim is made the more clear to the jury when, additionally, the several operations done all appear together, consecutively enumerated on one page, and when the record of all services rendered is given chronologically, with the original structural abnormalities pictured. In event of such suit it will also be of great value to have an accurate description of the physical condition at the time treatment was begun. In this way, for example, it may be shown that the smell was at that time reported as lost, thereby showing the falsity of a later claim that the smell had been impaired by the treatment, such claim being made as an excuse for the non-payment of the bill. Carrying the one small book to court will also prove to be a much easier task than being required to appear with a bulky day-book, ledger and case record.

The nine small squares on the first page serve a useful purpose. In order to cause a patient to better understand the condition which calls for treatment, a reprint bearing upon the subject may be of great assistance. In case such reprint is given, a suitable mark or letter in the proper square will serve as a future reminder of that fact. In the same way the giving of any printed slip of special directions, or the sending of a "removal" or "change of office hours" notice may be recorded. Under the heading "Former Treatment," I note the name of the usual family physician and also a brief report of any special treatment had in the past for troubles of the nose, throat or ears, with the name of the specialist consulted.

In "Present Condition" headache is classified in several ways, an affirmative answer in some cases suggesting a nasal cause.

Under "Vision" should be specially noted astigmatism or insufficiency as probable causes of headache, if such is complained of. If a correction is being worn, I generally note the name of the oculist. Under "Voice" I note the pitch of the voice, susceptibility to hoarseness, and generally the name of the vocal teacher.

A page is given respectively to both the right and left nasal fossæ. With the assistance of the dotted hair-line illustrations all structural abnormalities can be accurately and quickly pictured, which, in addition to its value to the attending physician, gives the patient a clearer idea as to the troubles present and an increased appreciation of the importance of treatment. The examination of the larynx has been made right and left, which has, I believe, not before been attempted. The desirability of so doing would seem to be apparent, and particularly when noting an impairment of vocal cord motion.

On the second page of the ear examination occurs the heading "Through Tube." This may, in different cases, be used for the purpose most appropriate as follows :

- a.* Through auscultation tube.
- b.* Through speaking tube.
- c.* Through Eustachian catheter.

The first alluding to the objective sounds during inflation ; the second, in cases of pronounced deafness, or in cases wherein only one ear is affected, when it is desirable, while testing the defective ear, to absolutely do away with the possibility of the sound of the tuning fork, or other test used, reaching the opposite ear by ærial conduction ; and the last, in rare cases of pronounced middle-ear deafness, to differentiate whether or not the stapes has become involved when speech through a speaking tube in the external meatus is not heard.

After the examination of the ears and the results of the functional tests at the time of the first examination, two pages are devoted to subsequent tests to be made at different dates in order to show progress. A space for date is given with each ear, as time to test both ears on the same day may often not be had. The tests selected are the Rinné-Schwabach with the Hartman set of tuning forks, and next the Politzer acoumeter (H. M.) and the Galton whistle, both before and after inflation. Four extra columns for extra tuning forks are provided. In case only one ear is affected, both pages can be devoted to it, and either the word "left" or "right" erased.

Primarily only two pages are given for treatment *per se*. In the past I have found that a large part of the notes of treatment consist of observations in the way of diagnosis, notes of operations performed, after tests of hearing or copies of R's given. In the present form of record the former are all properly classified under appropriate headings, and the three latter I dispose of by devoting one page to operations, numbered from 1 to 15, with space for dates; two pages to subsequent ear tests and one page to prescriptions, which can, if desired, be written out in usual form. Of course, in this department of practice, not many prescriptions are written, and if not thus used, this page and the following one, can be used for the continuation of treatment. For future reference the utility of separate pages for operations and prescriptions can be readily seen.

This record form has been published for me by the Clinic Publishing Co. of this city. The illustrations show reductions of four of the pages.

Columbus Memorial Building.

The Politzer Air-Bag—W. H. BAKER—*Maryland Med. Jour.*, Vol. xxxix, No. 14.

The author maintains that the method of Valsalva should be substituted for the air bag. He claims that self-inflation can be accomplished with much less danger of producing labyrinthine hemorrhage, congestion of the ossicular connections and rupture of the membrane. Children are afraid of the bag, while they can be easily taught to "Valsalva." He agrees that the "Politzer" is useful after incision of the membrana or after tenotomy of the tensor tympani. It should not be placed into the hands of the laity. The method of Valsalva, he thinks, is a simpler and safer measure.

(This is rather a sweeping assertion to make, as we frequently observe instances of engorged turbinates, where self-inflation would prove deleterious if allowed to be practiced at the patient's pleasure. Middle-ear inflation should never be attempted unless the nasal chambers are known to be free from accumulated secretion, and this knowledge can only be positive after an ocular inspection.)

LEDERMAN.

THE PNEUMATIC CABINET AS A MEANS OF INFLATING THE MIDDLE EAR, WITH REMARKS AS TO THE ADVANTAGES AND DISADVANTAGES OF THE VARIOUS METHODS EMPLOYED.*

BY C. P. AMBLER, M. D.

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Every one having had occasion to inflate the middle ear must have been aware at different times that the two methods advocated and described by our text books are, in some cases, a direct contraindication when the actual condition present is fully appreciated.

The two methods usually employed, the Valsalvan and that of Politzer, both depend for their efficiency upon the sudden forcible entrance of air *into* the cavity of the middle ear, through the Eustachian tube, while in perhaps fully one-half of our cases, the only indication for inflation is the removal of accumulated catarrhal secretion from this tube itself; in other words, we, in order to expel the secretion from the Eustachian tube, first drive a column of air either by or through the secretion and depend upon the return pressure to produce the desired effect.

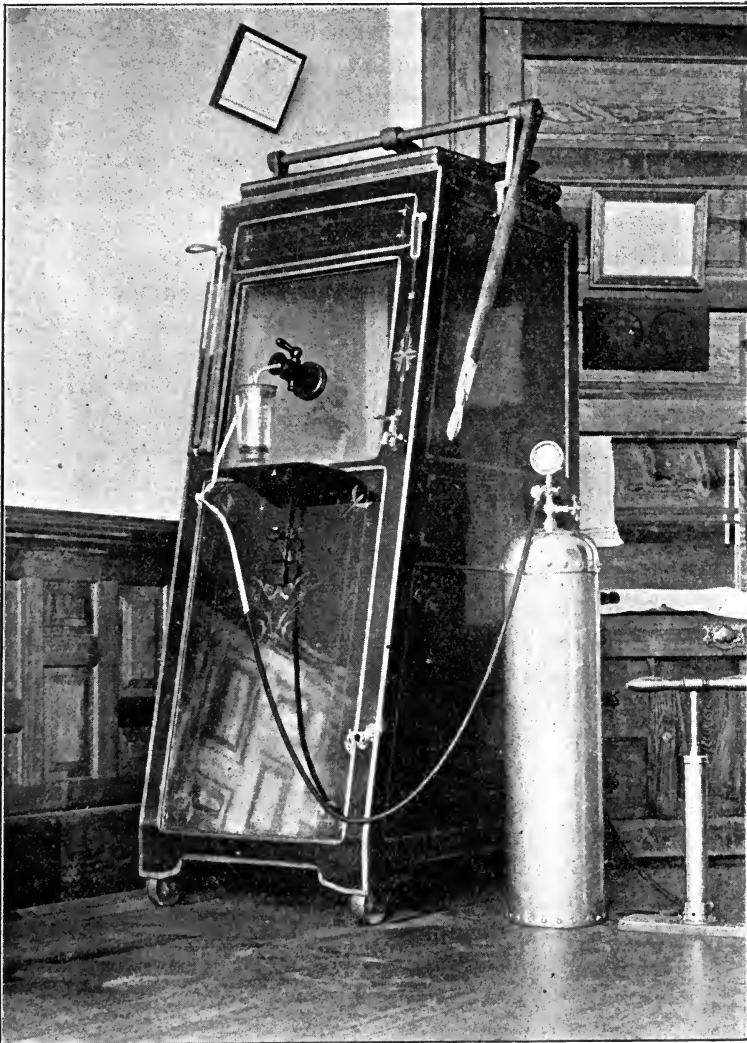
That the forcible entrance of air through the secretion may, and in many cases does, drive more or less secretion higher up the tube or into the tympanic cavity itself, none can deny.

Gruber says (page 390): "It often happens that when a patient is first seen, the inflammatory trouble has already disappeared, and nothing but a plug of mucus remains in the first part of the tube, causing the disagreeable subjective symptoms. In such a case if the ear be inflated with the air ball, the mucus is very often driven either into the pharynx or into the mastoid cells, upon which recovery at once ensues."

"Upon which recovery at once ensues," pertains I take it, to the "disagreeable subjective symptom," and this will certainly result when the mucus is dislodged, but what result the blowing of this bacteria laden mucus deeper into the ear or "into the mastoid cells" may have later on, the author does not mention. No one of us would willingly allow even such an authority as quoted to relieve the "disagreeable subjective symptoms" in our own case at such a risk of more serious complications to follow.

*Read before the Buncombe Co. Med. Soc. August 1st, 1898.

In those cases where no accumulation is present, and the inflation is carried out to ventilate the middle ear and free the same from gas, or to equalize the air pressure, the same having been interfered with by swelling along the course of the tube, of course no such danger would follow.



But who can say no accumulation is present? Is it not a fact that invariably in cases requiring inflation, secretion is always present? And granting that the ordinary inflation as usually made does at once relieve the "disagreeable subjective symptoms" is it not true that

many of these same cases return later with more serious complications? Have you ever thought that possibly your unscientific inflation may have been the cause of the discharge or mastoid disease that follows? Is there any other cavity in the body, the sewer of which we attempt to "unstop," by forcibly driving air up the same toward the cavity? And is there any other cavity in the body more deserving of greater respect at our hands, with its complicated accessory sinuses and structures, than the tympanic cavity?

Truly we must admit that as aurists we are often very unscientific plumbers.

We propose to show that by the use of the Pneumatic Cabinet inflation can be accomplished without the least danger of causing entrance of mucus into the middle ear cavity, or "into the mastoid cells" as Gruber states.

We have all experienced, in attempting to inflate a patient's ears for the first time, by the ordinary method, that in many cases it is difficult to get the patient to understand what you wish him to do. He either fails to swallow at the right time or will allow the air and water to be expelled through the mouth, to the discomfort of the operator.

Others object to having the necessary apparatus inserted into the nostril, and in unskillful hands their objection is well grounded. The entrance of air into the stomach is of frequent occurrence and is annoying as it is disagreeable to the patient. The procedure produces such a noise in the nose and pharynx that in many cases the patient is unable to say whether he felt anything in his ear or not. If but one ear requires inflation, or there is a contraindication in the other ear, then the catheter must be employed or the one ear suffer for the benefit of the other. In certain cases the Valsalvan and Politzer method will fail and recourse must be had to the catheter.

If a catheter is used and the air blast is driven through it the same danger is unavoidable, viz.: pressure toward the internal ear.

The introduction of a catheter is always disagreeable to the patient, but should not be painful if properly performed; unfortunately it is exceedingly painful in certain hands.

Physical nasal deformities may be so marked as to prohibit the passage of the catheter or even to obstruct the free manipulation by the air bag process.

Children as a rule are frightened by either of these methods and at the second, third and fourth inflation frequently sorely tax the patience of the operator. And finally, in my hands at least, one of the greatest objections to the air bag process has been the difficulty of determining the amount of air pressure required or to be used. If

inflation is to be carried out daily it would certainly be desirable to have some mechanical method of measuring accurately the amount of pressure necessary to accomplish the desired effect.

All authorities recognize the danger of too great force. Schwartz says: "By injudicious employment of Politzer's method, injury may result from the effect of the concussion of the air upon the healthy ear."

Gruber (page 391) says: "Poltizerisation should only be employed when less energetic means are unsuccessful." Gruber also states (page 392) "The air forced through the nose (Poltizerisation) passes in all directions into the accessory spaces, and it particularly may injuriously affect the eye."

That nasal secretion may be forced into the lachrymal sac is not at all impossible, and that a dacryocystitis might follow such an accident, none can deny.

The same would hold true of all the accessory nasal sinuses, the explosive effect of the air certainly carrying secretion found at the outlet of such a sinus, backward and deeper into the sinus.

Gruber further states (page 391) "A greater force than is necessary should never be employed, as in many patients very disagreeable symptoms may be brought about in this way (giddiness, fainting, vomiting) and the tympanic membrane may even be ruptured, especially if it be fattily degenerated or cicatricial."

With these remarks as to the unscientific, annoying, disagreeable and even dangerous character of applying the ordinary methods of inflation, I wish to show that in the Pneumatic Cabinet we have a method whereby all of these difficulties are instantly and easily overcome and moreover whereby in its use we have a method embracing many decided advantages over any other method I have ever seen described.

For those who are not familiar with the cabinet we give a photograph as described and employed.

It is merely a metal box, large enough to admit the patient sitting upon a comfortable chair; the box having a heavy plate glass front, and a complicated lock for rendering the door air-tight when closed.

The cabinet is supplied with stop cocks, water and mercury gauges and a bellows whereby the air pressure in the cabinet can be either increased or diminished at the will of the operator.

The theory and application of the cabinet for inflation is directly the reverse of both the theory and practice by the air ball method.

As above stated, if we have an accumulation of mucus in the tube, theoretically we should remove this by a force exerted from *within outward and down* the course of the tube.

This is exactly what occurs when the proper application of the cabinet is made.

Imagine our patient seated in the cabinet (and a word of explanation always suffices to overcome any prejudice he may have, interests him and he enters into the procedure willingly). The door is now closed air-tight by a peculiarly arranged lock, which forces the door inward against a rubber cushion. All stop cocks being closed the water and mercury gauge show that the air pressure in the cabinet is the same as that in the room. The proportion between the cabinet and the bellows is such that if we now remove the least quantity of the confined air by working the bellows, the water gauge will show a diminished pressure in the cabinet correspondingly.

When we suddenly decrease the pressure surrounding our patient we likewise decrease the pressure in his pharynx and if we have reduced sufficient pressure to overcome what obstruction there may be in the Eustachian tube, the air in the middle ear expanding will exert its force in the direction of the least resistance. This will be either toward the tympanum or the Eustachian tube. In the normal ear the expansion takes place toward the Eustachian tube at once, no matter how slight the decrease in pressure, but if the tube is obstructed, the drum will allow of a certain amount of expansion in its direction.

Swallowing on the part of the patient facilitates expansion toward the tube as the act of swallowing dilates the funnel part of the tube and produces a slight suction through the same.

Our water gauge is arranged for showing a varying pressure of only eight inches on the same and in case we desire to still more decrease the pressure, we shut off the water gauge by its stop-cock and work by the mercury gauge.

Ordinarily the mercury will have to be displaced in the neighborhood of an inch before the expansion of the air confined in the middle ear will overcome the obstruction. In other words we reduce the pressure in the cabinet to approximately what exists 1,000 feet above the elevation of the operator.

That the expansion of the air in the middle ear pushes the secretion out before it, is very easily demonstrated; by entering the cabinet with the patient and making the usual rhinoscopic examination as the assistant decreases the pressure, the secretion can be seen to well out. This can only be seen, however, when there is considerable secretion present.

When the pressure has been gradually decreased to the point that the patient is conscious of a cracking noise in the ear, the external air, after waiting a few moments, is allowed to slowly

enter the cabinet again, and if by swallowing alone, which is usually the case, the patient is unable to equalize the pressure in the ear and relieve all sense of "dullness," the pressure may be increased at pleasure to the point where inflation is felt.

Where the expansion of the air is desired toward the Eustachian tube alone, and not toward the tympanum, this can be readily produced by having the patient close the external ear by pressure with the finger and then rarify as described.

If the inflation or interchange of air is desired in one ear alone, this can be accomplished by having the patient turn the head as far as possible toward the ear not to be inflated and to press the neck against the shoulder. The slight pressure exerted upon the pharyngeal muscles by the position renders the ear upon this side much less easily inflated.

The advantages of this method of inflation over the Valsalvan or Politzer method are many: viz—(in comparison with the disadvantages mentioned under the latter method).

1st. The inflation is accomplished without discomfort or annoyance to the patient and without the use of instruments or manipulation applied to the nares.

2nd. If a plug of mucus is present in the tube, it can be drawn away without forcing anything into the ear or nose.

3rd. It offers a method devoid of danger, of either forcing secretion into the ear, or of using more force than necessary.

4th. Recourse to the catheter becomes less frequent.

5th. Deformities of the septum or turbinated bodies present no hindrance to the method.

6th. It requires less time to accomplish the desired result than it does ordinarily to instruct the patient what to do and what not to do.

7th. For children, especially, it takes less time, does not frighten them, and saves a scene.

8th. No noises are produced and the patient never fails to instantly recognize when the inflation has occurred.

9th. The danger of (as Gruber states) forcing air or secretions into the nasal duct or an accessory sinus is entirely overcome.

10th. We can absolutely govern the amount of pressure applied either in rarification or compression, as the water and mercury gauge are extremely sensitive and show the least change.

11th. The same pressure can be applied from day to day.

12th. If serum is present in the middle ear, Politzerisation may be very painful, and paracentesis may be indicated. Rarification

will in many such cases cause the serum to drain away by the natural outlet and render unnecessary the cutting of the drum membrane.

Besides these twelve advantages over Politzerisation, many more exist and indeed where rationally used the cabinet becomes a valuable aid in treating many of the more complicated ear diseases.

Rarifying the air quickly over a patient with a perforation and discharging ear will cause the pus to pour out through either the perforation or into the Eustachian tube, often both. This procedure acts admirably following paracentesis.

The same procedure followed in suppurative diseases of any of the accessory sinuses, will frequently *start* the drainage from the same; particularly is this true in suppuration of the ethmoidal and frontal sinuses.

In all those conditions where it is desirable to replace a retracted drum, in partial ankylosis of the small bones or where gymnastic exercise or massage of the parts is indicated, no other means at our command can compare with the cabinet.

By having the patient take a deep breath, holding the mouth and nose tightly shut, and then reducing the pressure over him, say to an inch on the mercury scale, we immediately inflate the ear by the expansion of the air in his respiratory apparatus, and, if no perforation exists, we can retain the drum in this position as long as he can hold his breath.

By alternately rarifying and compressing the air over him we can, going directly from one extreme to the other, cause the drum and conducting apparatus to make excursions, only limited by their physical condition or the degree of our pneumo therapy.

After charging the air in the cabinet with medicated vapors we can easily cause the same to enter the inner ear and without manipulation of the delicate structures.

The disadvantages of the cabinet method are as far as I have been able to determine, only two, viz: the cost of the cabinet and the room it takes up in the office.

It is now ten years since I have been using the Pneumatic Cabinet and I find that I have of late years but in very few cases had to apply the catheter in order to inflate the ears.

My Politzer bags are used in outside work, but I never use the same without feeling that I have perhaps done my patient harm, while relieving him, and I know moreover I have theoretically and practically been pursuing a most decidedly unscientific method when I use either the Politzer or Valsalvan method.

4, 5, 6 Temple Court.

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EDITORIAL.

THE CLINICAL VALUE OF ANTITOXIN.

While the antitoxin of diphtheria has been generally admitted to be a valuable therapeutic agent in the treatment of this disease, a number of points concerning its effects is still under discussion, and in this connection the report of the committee appointed by the Clinical Society of London to inquire into its clinical value is of considerable interest.

While this report, which was made at a recent meeting of the Society, does not compare, in the number of cases and in the detail of the analysis made, with the report of the Laryngoscopic

Society's collective investigation into the use of antitoxin in the treatment of diphtheria in private practice, reported at the meeting of the Society at Montreal in 1896, still it presents many interesting points for study.

In the report of the American Pedriatic Society, 3,628 cases were collected, 6 per cent of which were rejected for various reasons, such as uncertainty of the diagnosis, from the analysis. In the report of the Clinical Society of London, 832 cases were collected, 199 of which were rejected, or about 24 per cent, for similar reasons, showing a disposition to obtain as far as possible correct data for investigation.

In cases which presented symptoms, more or less severe, of the laryngeal form, about 50 per cent escaped the operation of tracheotomy, which corresponds closely with the report of the American Pedriatic Society. The tracheotomies are divided into two groups: first, tracheotomy within twenty-four hours after the first injection, and second, tracheotomy at a later period. Only two of the seventy-five cases are of the second group. The mortality in these operations amounted to 36 per cent, as compared with 71.6 per cent in the control series compiled from the records of the general hospitals before the introduction of antitoxin, but corresponds closely with the report of the Pedriatic Society, in which the mortality was 37.4 per cent.

The mortality fell as the age increased, but it was in the first five years of life that the lessened mortality in the antitoxin series was most marked. It was to the lesser frequency to which the membrane extended to the larynx and trachea in cases treated with antitoxin, and to the effect of the antitoxin on them when the membrane was present, that the lessened mortality in the antitoxin series was mainly due. The total mortality in 633 cases amounted to 124 or 19.5 per cent, as compared with 29.6 per cent in the non-antitoxin control series. In the American Pedriatic Society's report, the mortality was only 12.3 per cent.

The closest investigation failed to discover any connection between the occurrence of paralysis and the amount of antitoxin injected, nor did the period of the disease, at which it was first used, appear to exert any influence on the occurrence of the paralytic symptoms. The evidence of the report of the American Pedriatic Society also shows that the effect of diphtheria antitoxin on the nervous system is less marked than on any other part of the body, paralytic sequelæ being reported in 9.7 per cent of the cases, the report thus showing that the protection afforded by the serum is not great unless the injections are made very early.

Some form of rash followed the injection of antitoxin serum in very nearly one-third of the cases. This rash could be divided into two main types, those of an erythematous and those of an urticarial character, the former largely predominating. In no instance did the presence of the rash appear to have any bearing on the ultimate result of the case. Joint pains which were not met with in the non-antitoxin series, and which were apparently due to the antitoxin, were observed in a small number of cases.

The percentage of deaths with suppression of urine was found to be practically the same in the antitoxin and non-antitoxin series. This is also shown in the report of the American Pediatric Society.

The general result of the inquiry shows that in cases treated with antitoxin, not only was the mortality notably lessened, but the duration of life in fatal cases was also prolonged. The injection of antitoxin may produce rashes, joint pains and fever. With these exceptions, no prejudicial action has been observed, in the series of cases investigated, to follow even in cases in which a very large amount of antitoxin serum had been used. SCHEPPEGRELL.

THE WESTERN OPHTHALMOLOGIC AND OTOLARYNGOLOGIC ASSOCIATION.

The next annual meeting of this growing and active Association will take place in New Orleans, April 1899, and judging by the enthusiasm of its members and the active work accomplished at the last meeting in Chicago, we have every reason to believe that the future work of this Association will be successful to a high degree.

Judging from present indications and taking as a criterion the work of this new society in the past three seasons, we feel safe in predicting that the Western Ophthalmologic and Oto-Laryngologic Association is destined to be one of the strongest and most influential bodies of its kind in this country.

To a certain extent its name is a misnomer, for its membership includes many prominent men from every state in the Mississippi Valley, the Gulf Region and the West.

Active preparations are now in progress for an interesting meeting. In addition to the scientific features of the next session, the members will be entertained in New Orleans during the celebrated Mardi Gras season, thus combining a very pleasurable sojourn with scientific work.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Observations of the Histology and Etiology of Rhino-Scleroma—

SECCHI—*Gazetta Degli Ospedagli*, April 9, 1898.

The two principal elements of rhino-scleroma are the bacilli and blastomycetes. The bacilli are free or enclosed in special cells; the blastomycetes are more numerous in recent nodules, while the bacilliferous cells, on the contrary, are found in the old nodules, that is to say, in the cells where the degeneration is more pronounced.

It is supposed that the blastomycetes play a more important role in rhino-scleroma than the bacilli. Rhino-scleroma appears to be an affection produced not by the schizomycetes, but by the blastomycetes.

SCHEPPEGRELL.

An Etiologic Study of Atrophic Disease of the Upper Air Passages, Based Upon an Examination of Two Hundred Cases—J. S.

GOODALE, Boston—*Jour. Am. Med. Assn.*, Feb. 26, 1898.

In tabulating the cases 50 per cent. were found to be fetid, 37 per cent. non-fetid and 13 per cent. pharyngeal. Nasal atrophy occurred twice as often in females as in males. Pharyngeal atrophy occurred with about equal frequency in the sexes. Nasal atrophy began most frequently between the ages of 5 and 15, while pharyngeal atrophy occurred irregularly between 20 and 72.

Of the females 30 per cent. noticed an increase and 4 per cent. a decrease in the symptoms during menstruation. In 75 per cent. of all the cases the general health was good. In summing up, the author concludes that in the cases tabulated the weight of testimony favors the theory that nasal atrophy is a primary disease and not a sequel to hypertrophy.

ANDREWS. (BISHOP.)

The Effect of Irritation of the Nasal Mucosa upon the Movements of the Heart and Pulse—GUDER—*Ann. des l'Or., etc.*, April

9, 1898.

The author concludes that it is not possible experimentally to reproduce cardiac symptoms (angina and palpitation) observed in certain patients with hypertrophy of the Schneiderian membrane or with polyipi in the nasal fossæ.

SCHEPPEGRELL.

Nasal Catarrh, Acute and Chronic; Laryngitis; Eustachian Tubal Catarrh, and Inhalants—S. S. BISHOP, Chicago—*Alkaloidal Clinic*, April, 1898.

The paper deals with the medical instead of with the surgical treatment of these troubles. Proper treatment, if instituted early, and with the patient's co-operation, will often effect a cure. With the alkaloidal and synthetic remedies at our command, the medical treatment is reduced to a refined and elegant art. In acute coryza tablets are recommended containing; each, morphine $\frac{1}{12}$ grain; atropine, $\frac{1}{600}$ grain; caffeine, $\frac{1}{6}$ grain, and are to be used in connection with suitable sprays and nebulæ. The rhinologist who would treat diseases of the nose and throat without employing medical means is like a surgeon who would discard antiseptics, or a dermatologist without his soaps, powders and ointments.

PYNCHON. (BISHOP.)

Non-Specific Perforation of the Nasal Septum—J. R. STRAW, Ashland, Wis.—*Jour. Am. Med. Assn.*, Feb. 26, 1898.

The author formerly believed that syphilis was the usual causative factor in perforation of the septum. He has found the condition exceedingly common in Northern Wisconsin. Most of the cases have no other symptoms of syphilis, and anti-syphilitic remedies, even when administered before the perforation has actually occurred, do not check the breaking down process. He now believes climatic conditions to be the principal cause, and relies upon protective treatment by some simple ointment and plugging the nostril with cotton when the patient is exposed to severe weather.

ANDREWS. (BISHOP.)

Tumors of the Nose and of the Sinuses—P. TISSIER—*Ann. des Mal. de l'Or., etc.*, April 16, 1898.

An analysis, both clinical and anatomical, of the various tumors which have their point of departure from the nasal fossa and accessory cavities.

SCHEPPEGRELL.

The Removal of a Bean from the Nose—F. G. OEHME—*Medical World*, Vol. xi, No. 7.

The bean could not be grasped with any instrument, so the end of a rubber tube was placed between the lips of the child, the other end being in the mouth of the author. The unobstructed nostril was compressed and a quick puff into the tube succeeded in dislodging the bean.

LEDERMAN.

The Electrolytic Treatment of Ozena—RETHI—*Rev. Int. de Rhin., etc.*, March, 1898.

Without giving any new information on this subject, the author again advocates the beneficial effects of electrolysis in ozena.

SCHEPPEGRELL.

Case of Recurrent Headache, Each Attack Being Relieved by the Discharge Through the Right Nostril of a Fluid From the Cranial Cavity—W. SCHEPPEGRELL, New Orleans—*Journal of the American Medical Association*, Feb. 26, 1898.

The patient, after suffering three weeks with a severe and intractable headache, accidentally fell down stairs, striking her head with such force as to render her unconscious for a few minutes. The fall was immediately followed by a discharge, from the right nostril, of a quantity of yellow, watery fluid. As soon as consciousness returned the patient discovered that the headache had entirely disappeared. Subsequently, at intervals of a few days to a few weeks, the headaches returned, each recurrence terminating after two to four days in the discharge of about an ounce of fluid from the nose. The sphenoid cavity, the ethmoid cells, the frontal sinus and the antrum of Highmore were investigated with negative results. After discussing the discharge of fluid from the subarachnoid space and referring to cases reported, the author concludes in this case the fluid comes from a cyst connected with the lymphatic circulation, situated between the frontal lobes, probably caused by occlusion of perivascular lymphatics and discharging at intervals through the foramen cæcum.

ANDREWS. (BISHOP.)

II. MOUTH AND NASO-PHARYNX.

Stuttering and Its Practical Treatment—DEREVOGE—*Revue Hebdomadaire de Laryng., d'Otol. et de Rhin.*, April 2, 1898.

Without advancing any new idea, this is a careful synopsis of the modern method of treating speech defects. SCHEPPEGRELL.

Membranous Congenital Occlusion of the Posterior Nares—LACOARRET—*Ann. de la Policlin. de Toulouse*, March, 1898.

A young woman suffered from nasal obstruction and a peculiar vibration of the nasal fossæ on the emission of certain consonants. An examination showed a membranous obstruction, which was successfully removed by the electro-cautery. SCHEPPEGRELL.

Naso-Pharyngeal Catarrh and Its Treatment by the General Practitioner—JOHN R. HALL—*Kansas City Med. Record*, Vol. xv, No. 6, 1898.

The Treatment of Chronic Hypertrophic Tonsillitis in the Light of Modern Theories of Infection Through the Tonsil—*Ibid.*

Both papers were freely discussed. The use of the tonsillotome was generally favored. The electro-galvanic cautery and chromic acid were also favored, while it was generally agreed upon that the nasal spray was not necessary except to apply soothing remedies after the parts had been cleansed. EATON.

The Tonsil as a Point of Entrance for Severe General Infectious Diseases—JESSEN, Hamburg—*Med. Review of Reviews*, Vol. iv, No. 8.

The author states that diphtheria may serve as the type of infectious disease which begins at the throat. Scarlet fever is another ailment which has its origin in this region. From 70 to 80 per cent of all instances of acute rheumatism have an original prodrome. Osteomyelitis has been found in a number of cases to date from a streptococci infection of the tonsil. Among other diseases which are mentioned as starting from the fauces are pleurisy, pneumonia, pyemia, septicemia.

LEDERMAN.

Carcinoma of the Pharynx, with Extensive and Erratic Cornification—L. HEKTOEN—*Phila. Med. Jour.*, March 19, 1898.

The irregularity of the development of carcinoma of the pharynx is well illustrated in the erratic and uncontrolled cornification in the primary and secondary foci of the tumor reported in this case. A detailed description is given of the microscopic technique of the examination of this case.

SCHEPPEGRELL.

Pathology of the Vomiting of Tuberculous Patients; Vomiting Due to Pharyngeal Hyperæsthesia—BERTHIER—*Revue Hebdomadaire de Laryng., d'Otol. et de Rhin.*, April 16, 1898.

Marfan states that vomiting in the early stages of tuberculous pulmonitis is due to an initial gastric syndrome, and also to irritation of the pneumogastric in the region of the gastric mucosa. The vomiting at this period is always on the occasion of a cough. Mechanically, it may be due to the abdominal pressure, which is sometimes sufficient to cause the regurgitation of food. There must also be a dilatation of the cardiac opening due to relaxation of the dilators. The association between the cough and the vomiting appears to be due to the rear portion of the pharynx, which is hyperæsthetic. This hyperæsthesia is often exhibited when the throats of these patients are examined.

In accord with this theory, Berthier uses a spray of cocaine, which is applied to the back of the throat of the patient.

[In view of the transient effect of cocaine, and also of the danger of the constitutional effects and of forming the cocaine habit, this drug is not to be recommended in these cases, especially as the same end may be obtained by equally effective and less dangerous methods.]

SCHEPPEGRELL.

Bucco-Lingual Leucoplasia, Symptomatology, Pathology and Treatment—P. DE MOLÈNES—*Journ. de Med. et de Chir. Pratiques*, April 9, 1898.

Hyperplasia is a rare affection, and is most frequently observed between the ages of 40 and 50. It may be due to the use of tobacco, certain medicines, etc. Various constitutional conditions, such as syphilis, diabetes, gout, alcoholism, heredity, etc., are among the

constitutional causes. Frequently leucoplasia degenerates into epithelioma.

In the treatment, all local irritants should be interdicted. Constitutional diatheses should be corrected and intestinal asepsis practiced. Where the disease augments in spite of treatment, the curette or electro-cautery may be used. SCHEPPEGRELL.

Urticaria, Involving the Uvula and Nearly Causing Asphyxia—

GUY HINSDALE—*Phila. Polyclinic*, Vol. vii, No. 31.

Sudden onset of symptoms caused a male patient, twenty-five years old, to consult author. Breathing was labored, voice husky, eyes deeply congested, face considerably swollen, so as to alter expression.

Trunk and lower limbs were covered with characteristic urticaria. The uvula was enlarged, œdematous and allowed only a difficult entrance of air. No swelling of epiglottis or larynx was present. Cocaine applied to uvula and soft palate, followed by a gargle of Seiler's solution, gave *prompt relief*. LEDERMAN.

A Case of Urticaria of the Pharynx, Producing Grave Edema of the Glottis—J. M. TAYLOR—*Phila. Med. Journal*, April, 1898.

A young lady felt an obstruction in her throat, which rapidly increased until her face was livid and cyanotic. Ten minutes later an urticarious eruption appeared on the skin and rapidly spread over the entire body. A spray of antipyrin and cocaine was made to the larynx, ice applied to the neck, and general treatment commenced, which gave relief without resorting to tracheotomy, which at one time appeared urgent. SCHEPPEGRELL.

The Spitting of Blood—D. B. KYLE—*Dunghison's C. and C. Record*, Vol. xix, No. 6.

This symptom is always an alarming one to the patient. In five cases seen by the author where there were repeated attacks of slight hemorrhage, it was found that the bleeding arose from a varicose condition of the veins at the base of the tongue. There was a sacular dilation of these vessels, which was followed by rupture.

LEDERMAN.

Angioneurotic Edema of the Tongue—FRANK K. HALLOCK, Cornwall, Conn.—*The Atlantic Medical Weekly*, July 16, 1898.

The tongue is rarely subject to acute angioneurotic edema. The face, hands and feet are the most frequently affected; and while the pharynx, with its adjacent mucous membrane spreading throughout the nose and down to the larynx, is often involved, the tongue seems to escape.

This case is of interest, as it is completely unilateral.

The predisposing causes are heredity and hysteria, but neurosthenic conditions are the most important.

Exciting causes are cold, gastric irritation, puberty, menstruation, the menopause, trauma, fright, toxic influences, etc.

It occurs at all ages, but it is more frequent in females. The chief characteristics of this edema are its sudden development, in one-half to one hour, without known cause, and its leaving suddenly.

The swelling varies in color from a pale pink to a dark red. It does not pit on pressure, and there is no special pain, but a feeling of tension. Often gastric irritation is associated with it, but as a rule there are no other definite constitutional symptoms.

When the mucous membrane of the pharynx, larynx and stomach are affected, difficulty in breathing, swallowing and speaking is experienced.

Cohnheim supposed that either the vaso-constrictors relax from their normal tonicity, or there occurs a reflex excitation of the vaso-dilators, whereby an increased blood supply accumulates in the affected areas, and as a result of the increased tension a transudate of blood serum fills the submucous tissues, producing the circumscribed swelling.

The edema, so far as the tongue is concerned, is supposed to arise from irritation of the chorda tympani nerve in its passage through the ear to the gustatory nerve of the tongue. In the one case chromic acid applied to the tympanic membrane, and in the other, the taking of food seasoned with almond nuts, which irritated the gustatory nerve directly, was the cause.

MACLEAN. (BISHOP.)

Suppurative Meningitis Following Difficult Eruption of a Wisdom Tooth—HEYDENREICH—*Revue Hebdomadaire de Laryngologie, et de Rhinologie*, April 16, 1898.

A clinical report of a case in which the autopsy demonstrated that the meninges had been infected from a purulent collection around the right inferior wisdom tooth, resulting fatally.

SCHEPPEGRELL.

Adenoid Vegetations and Laryngeal Stridor—EUSTACE SMITH—*The Lancet*, March 19, 1898.

Some time ago the author expressed the opinion that laryngeal stridor, like many other nervous phenomena in early life, was sometimes due to the irritation of adenoid growths, and might be successfully treated by their removal. At that time he was unable to support this view with substantial evidence, but he is now able to quote an instance in which congenital crowing of a marked type ceased within a few days of the post-nasal growths.

An infant was admitted to hospital for laryngeal stridor at the age of one month. It was stated that the breathing had been noisy from birth, and that at times the crowing was so loud and the breathing so labored and distressed as to raise fears for the child's life. The crowing was continuous. At times, however, especially after a meal or during the night, the breathing would become excessively loud and stridulous. In these attacks the face grew livid, the chest-wall was drawn in deeply, and the child

showed every mark of suffering from want of air. After a time, varying from twenty minutes to an hour, the dyspnœa gradually subsided and the child returned to his ordinary state—crowing loudly with each breath, but giving no sign of discomfort. Still, even in these intervals of comparatively quiet breathing there was marked recession of the lower ribs and epigastrium, and all the intercostal spaces were drawn in. The stridor was a long-drawn croak, which was loud in inspiration, and less loud, although distinct, when the breath was expelled. It never ceased even during sleep. At times the child coughed, but the cough had no barking laryngeal quality, and the cry was natural and clear. Examination of the chest showed that the respiratory murmur was equal on the two sides. A few scattered rhonchi were noticed. During the suffocative attacks the lividity and distress were so great that it was thought advisable to keep instruments always ready at hand for the operation of tracheotomy. The temperature was normal throughout, and remained quite unaffected by the attacks of dyspnœa. Digital examination of the throat discovered a number of vegetations of small size in the naso-pharynx. No attempt was made at this time to remove the growths, but a two per cent solution of resorcin was injected into the nostrils twice a day to control any post-nasal catarrh. The crowing, however, was not lessened by this treatment, although the cough ceased, and after a few weeks the mother was told to remove the child, but to bring him back to the hospital if the symptoms did not improve.

Three months later the child was re-admitted to the hospital. His general condition was less satisfactory than before. He was soft and flabby, and was said not to care for food. The adenoid growths were scraped away under chloroform. While under the anæsthetic it was noted that the crowing ceased and the breathing was perfectly quiet and natural. A few days after the operation the following observation was made of the condition of the larynx: The epiglottis was sharply folded on itself, so as to bring the posterior lateral services into almost complete apposition. It was pale in color, and somewhat thicker than usual. Throughout the examination the aryepiglottic folds were held tense. They were thinned and shortened, thus approximating the arytenoid cartilages and narrowing the upper aperture of the larynx. Only a small portion of the posterior ends of the vocal cords were visible; they were apparently healthy.

No suffocative attacks occurred after the operation, and stridor declined until it only became noticeable on deep inspiration or crying.

In this interesting case the connection between the respiratory croak and the state of the pharynx hardly admits of doubt. For three months the stridor had persisted day and night without improvement; indeed, the attacks of acute dyspnœa, instead of growing milder, had become more severe and distressing. Ordinary measures of relief had met with no success. Then the adenoids were removed and a change was apparent at once. The night at-

tacks ceased to occur and the child slept undisturbed. In a few days the croaking had begun to be less noisy; in a fortnight it could not be heard in ordinary breathing; in another two days it could not be heard at all, and the child was dismissed as cured. The case was not one of congenital malformation such as has been described by Dr. Lees, for the larynx was of normal size and development. Nor can the croaking be attributed to any laxness or flabbiness of tissue, as suggested by Dr. Sutherland and Dr. Lambert Lack, for Dr. McIlraith noted that the aryepiglottic folds were held tense during the whole of the laryngoscopic examination. Moreover, the fact that the stridor ceased while the patient was under the influence of the anæsthetic, points very decidedly to spasm as a cause of the croaking. Dr. John Thomson has argued in favor of respiratory spasm being common in these cases, and attributes it to imperfect co-ordination of the respiratory muscles. Dr. G. Smith was inclined at one time to accept Dr. Robertson's explanation that the trouble lay in a posticus paralysis consequent upon a depraved innervation of those muscles from over-stimulation of the accessory nucleus, but the present instance has convinced me that paralysis of muscle is not a necessary element in the derangement. It is quite possible that the mechanism of the noise may be different in different cases. In the subject of this note the stridor is attributed to a spasmodic contraction of the aryepiglottic folds, and it is believed that this was due to irritation set up by the adenoids in the naso-pharynx. The author thinks it probable from this and other examples of the affection which have come under his notice, that adenoid vegetations and the post-nasal catarrh which almost invariably accompanies them may be a cause of many of the cases of congenital croaking, as they are, undoubtedly, of many of the cases of laryngismus stridulus. That the number and size of the adenoids present in any particular case are insignificant ought not, in his judgment, to tell against this view. It is a common observation in the case of older children that the degree of distress and general interference with nutrition caused by the vegetations is often greatly out of all proportion to the actual amount of adenoid hypertrophy. The reason of this he believes to be that the nervous irritation is not uncommonly the consequence not so much of the growths themselves as of the post-nasal catarrh, which rarely fails to be joined with them sooner or later; at any rate, by reducing the catarrh he has often succeeded in putting a stop to signs of nervous distress, although the adenoid overgrowth itself was in no way interfered with by the treatment. In the present case, however, treatment of the post-nasal catarrh did not affect the crowing, which only ceased after the post-nasal vegetations had been scraped away.

ST. CLAIR THOMSON.

Adenoid Vegetations and Laryngeal Stridor — H. LAMBERT LACK—*Lancet*, March 26, 1898.

In criticizing the above views it is pointed out that the author

and Dr. G. A. Sutherland recently¹ claimed to prove that an affection commonly known as congenital laryngeal stridor depended upon a congenital deformity of the superior laryngeal aperture aided by the flaccidity of the parts in infancy (not in the latter factor alone, as Dr. Smith erroneously interprets their views). If adenoids are the exciting cause of the affection, as Dr. Smith asserts, it is a little surprising that Dr. P. McBride (who examined six cases for Dr. Thomson, of Edinburgh,) and the writer in some twelve consecutive cases have been unable to find them in a single instance. Dr. Smith's contention is weakened and his bias shown by his statement that he always believed these cases were due to adenoids, but that until this one case came under observation he had no substantial evidence of it. The typical class of cases described by Dr. Thomson, Dr. Sutherland, and the writer form a group *per se*, and must be carefully distinguished, as they pointed out, from cases of laryngeal spasm due to adenoids or other form of nasal obstruction. Many details of Dr. Smith's case, apart from the result of treatment, point to its belonging to the latter class. Thus the stridor ceased under chloroform, was much increased in sleep or by closing the mouth as in feeding, and the patient was subject to severe suffocative attacks, these symptoms being characteristic of the adenoid cases and very rare in the affection Drs. Sutherland and Lack called congenital laryngeal obstruction. Thus Dr. Smith's case in no way controverts their views as to the pathology of the latter affection. Finally, when Dr. Smith states that he believes the affection to be due to spasmodic contraction of the aryepiglottic folds, and that this is due to irritation set up by the adenoids in the naso-pharynx, the writer replies that the spasm in his patient was possibly due to irritation set up by the examiner's finger and laryngeal mirror in the infant's pharynx—a not uncommon reflex.

ST. CLAIR THOMSON.

¹ *The Lancet*, September 12, 1897, p. 653.

III. ACCESSORY SINUSES.

Empyema of the Antrum of Highmore—F. BERGER—*Revue Hebdomadaire de Laryng., d'Otol. et de Rhin.*, May 14, 1898.

Empyema is more frequently of dental origin. A large alveolar opening is preferred.

(This article is from the point of view of a stomatologist, who probably observes more cases of dental origin than the rhinologist.)

SCHEPPEGRELL.

Empyema of the Maxillary Sinus Operated Through the Canine

Fossa—CASTEX—*Revue Hebdomadaire de Laryng., d'Otol. et de Rhin.*, April 30, 1898.

The patient suffered from acute empyema of the maxillary sinus, with considerable swelling of the jaw and of the right cheek. The sinus was opened through the canine fossa and drained through the middle meatus, according to the method of Luc.

SCHEPPEGRELL.

Mucous Polypi of the Left Maxillary Sinus—GAVELLO—*Arch. Ital. di Otol.*, No. 1, 1898.

Two years after an empyema of the right maxillary sinus, the patient developed pain in the left side of the head, which disappeared after the extraction of several caried teeth, but commenced again two months afterward.

An examination of the nose, throat and ear proved negative, but a light tumefaction was found in the region of the left canine fossa, where pressure produced severe pain. Under chloroform narcosis an opening was made through the anterior wall of the antrum. No pus was found, but the internal wall was covered with numerous mucous polypi. These were curetted and the cavity tamponed with iodoform gauze, which resulted in a cure. SCHEPPEGRELL.

IV. LARYNX AND TRACHEA.

Maladies of the Voice—CASTEX—*La Voix Parlée et Chantée*, April 16, 1898.

The majority of the affections of the speaking and singing voice are due to some organic lesion, and the treatment refers to the removal of the cause. Defective training is often responsible and should be guarded against. Excessive use of the voice is also a frequent cause, and constitutional conditions are not infrequently responsible for vocal defects. SCHEPPEGRELL.

A Case of Hyaline Myxoma of the Larynx—GALDIER—*Ann. des Mal. de l'Or.*, April, 1898.

A strong man of thirty-four years suffered from hoarseness thirteen years, with intermittent aphonia, sensation of a foreign body in the throat, and nocturnal attacks of dyspnoea. The laryngoscope revealed a tumor resembling a mucous polypus of the nose and about the size of an almond, situated near the vocal cords. This was removed by the forceps, which was followed by the immediate return of the voice. A histologic examination showed it to be a typical hyaline myxoma.

These tumors are rare, only ten cases having been reported.

SCHEPPEGRELL.

Radical Operations for Malignant Neoplasms of the Larynx—M.

LEMON—*The Med. Times and Register*, Vol. xxxvi, No. 1.

Regardless of what the effect may be in phonation we must do the work of excision completely once the larynx is opened. Hemorrhage must not drain into the trachea. Chloroform should be employed. The author is not a supporter of total extirpation.

LEDERMAN.

Laryngotomy for Subglottic Stenosis—CASTEX—*La France Méd.*, April 23, 1898.

Emergency tracheotomy had been performed on a patient who

had had attacks of suffocation for two years. As it was found impossible to remove the canula without at once developing dyspnœa, an incision was made and the cause found to be a subglottic stenosis. The larynx was opened after a Trendelenburg canula had been inserted and free incisions made in the obstructing membrane. This was followed by dilatation with a large canula, with successful result.

SCHEPPEGRELL.

Bilateral Paralysis of the Posterior Crico-Arytenoid Muscle of the Larynx—A. R. BAKER—*Va. Med. Semi-Monthly*, April 30, 1898.

Dr. A. R. Baker reports a case in which tracheotomy was made to relieve dyspnœa, due to paralysis of the posterior arytenoid-cricoid muscle. The patient now wears a tracheotomy tube constantly. Whenever a suffocation attack comes on he pulls out the cork and normal respiration is immediately restored. A few weeks ago the patient secured a life insurance policy for \$2,000 in an industrial life insurance company. During the first year after the operation the patient had some difficulty in securing a satisfactory tracheotomy tube. To overcome this, the metal tube was replaced by a soft rubber one, which proved more satisfactory.

SCHEPPEGRELL.

Urticaria Involving the Larynx and Causing Asphyxia—FRANK WOODBURY—*Phila. Polyclinic*, Vol. vii, No. 27.

Author was suddenly called to a male patient, forty-five years of age, well nourished, who was in great distress, with difficult and hurried breathing, rapid pulse and profuse perspiration on the forehead. Before his arrival the man fell to the floor, with face cyanosed and in a condition of asphyxia. When seen he was almost collapsed, but quickly improved under a hypodermic injection of strychnine nitrate gr. 1-100, followed by one of morph., gr. $\frac{1}{4}$, and atropine gr. 1-150. Aromatic spirits of ammonia was also given by the mouth. Sleep followed, and in a couple of hours the patient seemed as well as usual.

On questioning, the patient gave a history of having had urticaria frequently, and just before the attack came on he had taken some whisky, then a glass of beer with a cheese sandwich with plenty of mustard. A few minutes later he felt his lips swelling, and they became rigid and felt like wood. On washing his face he noticed a swollen condition of his face—after an evacuation of the bowels he suddenly became faint.

Lesions of urticaria were found upon his body. LEDERMAN.

Cutting of the Thoracic Portion of the Trachea, Following Injury of the Neck by a Sharp Instrument—VAUVERTS—*Ann. des Mal. de l'Or., etc.*, May 14, 1898.

At each expiration, a strong current of air came from the lips of the wound, and the cellular tissue around it was emphysematous. A sterilized rubber tube was inserted, but death followed quite suddenly.

An autopsy could not be made, but the author believes that death was due to the hemorrhage which occurred before the patient's arrival at the hospital. SCHEPPEGRELL.

Asthma—J. S. MOTT—*Kansas City Medical Gazette*, Vol. xv, No. 7, July, 1898.

The principal cause of asthma is a mystery, and the author believes that some day a microbe will be discovered as its prime factor, since he also believes that the vast numbers of micro-organisms found in the sputa of asthmatics passing through the nose produce the catarrhal condition. EATON.

Asthma Relieved by Compression of the Vagus—A. DE MIRANDA—*Am. Med. Surg. Bulletin*, Vol. xii, No. 14.

The author has succeeded in giving prompt relief in four cases of asthma by simply compressing the vagus nerve at the neck with the fingers. Complete disappearance of the dyspnoëic attacks followed this treatment. LEDERMAN.

V. EAR.

Care of the Ears in Early Life—D. C. BRYANT—*Western Medical Review*, Vol. iii, No. 7, July 15, 1898.

The anatomical conditions about the ear and neighboring regions are so different in early from those of adult life, as to give the subject importance as well as the results occurring from disease in childhood and infancy. Preventive treatment in childhood has largely decreased the number of these incapacitated for following the ordinary pursuits of life on account of deafness. The imperfect development of the bony roof of the tympanum renders frequent meningitis from otitis media in children, and *vice versa*. The close connection between the naso-pharynx, pharynx and tonsils and the tympanum in early life is a source of danger as well as the increased liability of contracting certain diseases, as coryza, scarlatina, etc.

The starting point for missionary works on the part of the physicians in preventing ear diseases in children is to "acquire a realizing sense of the full importance a perfect ear is to the individual," and that the crippling of his whole life work may often result from catarrhal otitis. The care of the ear in early years means the care of the nasal passages and pharynx, as well as the ear itself. Pure air and hygienic surrounding are as necessary for the health of the mucous membrane lining the throat, nose and ear as for the general health. EATON.

Ear Manifestations in General Disease—WENDELL C. PHILLIPS—*Albany Med. Annals*—June, 1898.

This paper calls attention to ear symptoms frequently observed in the general run of medical and surgical practice. There are but few diseased conditions or pathological changes in the ear but that may be traced to causes outside its own domain, such causes cov-

ering the nose, throat, brain, nervous system and the exanthemata. Such study, especially so far as it pertains to child life, commands the combined interest of the aurist and the general practitioner.

Histories of cases representing types were related, among them were "malarial otalgia," "otalgia—second stage of syphilis," "hysterical tinnitus," "sinus thrombosis in brain abscess from chronic middle-ear suppuration" and "traumatism."

Attention was called to tubercular ear affections. The destruction of the sputum in such cases will not suffice to rid the surroundings from danger, unless every possible means is employed to render the pus discharges from the ear immune.

Lymphoid or adenoid tissue in the vault is a constant menace to the ears, and some of the resultant ear symptoms are quite characteristic. Among others there is a condition of the tympanic membrane, associated with more or less deafness, which causes it to assume a dull, reddish hue with loss of the light reflex. These often cause a total and permanent deafness. Deafmutism from this cause is a deafmutism which might have been prevented had parents and physicians been fully alive to its seriousness. Hackneyed as the subject of adenoids is, those who are so often brought face to face with these resultant conditions, should continue to exhibit the danger sequel until all physicians come fully to realize how dangerous this affection is to child life. The care of the ears during attacks of the exanthemata was fully covered. Tinnitus in patients who have a uric acid diathesis will often be relieved by attention to this systemic condition.

No physician can successfully care for cases with ear complications without the requisite armamentarium and necessary skill to at least make an intelligent examination of the ear.

Any symptoms of cerebral disturbance in patients who have chronic otorrhœa should lead the attending physician to a careful investigation as to whether these symptoms may not be due to extension of the suppurative process into the cerebral cavity.

There should be competent aurists upon the staff of every institution for the deaf and dumb.

Medical inspection of public schools, not only to detect disease, but to determine defects of sight and hearing cannot be too strongly urged; and children who thus suffer should be given every advantage in the struggle for education. PHILLIPS. (LEDERMAN.)

The Hygiene of the Ears—FRANCIS DOWLING, Cincinnati—*Cincinnati Lancet-Clinic*, July 2, 1898.

Few people over fifty or sixty years of age hear well. Deafness is more common in males than in females. The same may be said of deaf-mutism. Scarlet fever is accountable for one-third of all cases of deafness. Diseases of the ear causing deafness are often the result of constitutional diathesis. About one-fifth of all causes producing deafness are hereditary in their nature. A potent factor in the cause of deafness is a too close consanguinity of the parents.

Troubles of the ear are too often neglected. There is a point of time in the history of most cases of ear diseases when a cure can be effected.

PYNCHON. (BISHOP.)

The Removal of Wax from the Ear—A. RICCI, Turin—*Maryland Med. Jour.*, Vol. xxxix, No. 20.

Hydrogen peroxide when placed in contact with cerumen rapidly disintegrates the obstructing mass in a few minutes, and thus allows its easy removal by simply syringing with water, even though it is very hard.

LEDERMAN.

Spontaneous Discharge of a Cerebro-Spinal Liquid from the External Auditory Canal—Probably a Congenital Fistula—

ESCAT—*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, May 14, 1898.

A girl of ten years, in whom no lesion of the tympanic cavity or drum, nor any traumatism were present, had an intermittent discharge of fluid from the ear. The first time it developed it continued for two months and was then absent for six. The child lost as much as 150 grammes of liquid with each discharge, this being repeated ten or twelve times during the same day.

The liquid was analyzed and found to be cerebro-spinal fluid. On examination the external canal appeared normal with the exception of the internal end of the superior border, which presented a small opening through which it was impossible to pass a slender probe. The author cauterized this part of the canal, which was followed by the disappearance of the discharge, and a month and a half afterwards there had been no recurrence.

SCHEPPEGRELL.

Intracranial Complications from Suppurative Otitis Media—C.

POLI—*Archiv. Ital. di Otol.*, No. 1, 1898.

The author reports five cases, four being operated upon. In the two first cases the complication consisted of a phlebitis of the sinus. Ligature and section of the jugular was made in both cases, only the first recovering.

In the third case the patient had a phlebitis of the sinus and an abscess of the brain. In the fourth there was phlebitis and abscess of the temporo-sphenoidal lobe. The fifth was remarkable for the appearance and rapid diffusion of the infection to the meninges of the whole cerebro-spinal axis.

SCHEPPEGRELL.

The Treatment of Acute Suppurative Otitis Media by Means of Free Irrigation Through the Eustachian Canal—MÉNIÈRE—

Gaz. des Hôpitaux, March 22, 1898.

As soon as inflammation of the tympanum is recognized, the author injects several drops of vaseline and aristol. If this does not cause the disappearance of the symptoms, he makes a free incision in the drum; free irrigation is then used daily, the injection being made to pass through the Eustachian canal. If this passage is obstructed by a swelling of the mucous membrane so that the injection will not pass, he introduces through the catheter a long fine canula of rubber, which penetrates as far as the entrance of the tympanum.

SCHEPPEGRELL.

Does Tympanotomy and Removal of the Incus Arrest Progressive Hardness of Hearing?—C. H. BURNETT—*Phila. Poly-clinic*, Vol. vii, No. 30.

Loss of hearing in progressive disease of the middle ear is first due to impaired mobility of the stapes and the increased intralabyrinth pressure induced by impaction of the stapes. All operations and maneuvers for the relief of chronic catarrhal deafness have in view liberation of the stapes and diminution of intralabyrinth pressure. No treatment can overcome organic changes in the labyrinth. Satisfactory results have not been obtained from excision of the drum with the malleus and incus. About eight years ago the author substituted tympanotomy and removal of the incus only instead of the former method for the relief of chronic catarrhal deafness, tinnitus and vertigo. This operation is much more difficult than the complete removal of the membrane and removal of the ossicles, but in the author's experience it has not been followed by much reaction; did not make the hearing worse in any of his cases; has improved some and has relieved the tinnitus and vertigo when same depended upon catarrhal retraction of the drum and impaction of the stapes.

In one case operated upon in this manner the hearing was not only improved in the ear treated but also in the other ear, which had gradually become deaf. This case was under observation for six years.

LEDERMAN.

Cholesteatoma of the Middle Ear, Pathology and Treatment—

BOUYER—*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, April 9, 1898.

Proper treatment consists of freely opening the diseased cavities, curetting them and entirely removing the cholesteatomatous masses and the diseased osseous tissue.

The best method of operation is that of Dr. Moure. The external auditory canal is first enlarged, and in this way the tympanomastoidian canal is exposed, from which the mastoid antrum is easily reached. The operation is concluded by closing the pavilion in the rear so as to secure union by first intention.

SCHEPPEGRELL.

Another Contribution to Surgery of the Middle Ear—FARACI—

Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie, May 21, 1898.

A report of eight cases of mobilization of the stapes in patients in which rigidity of the ossicular chain was the prominent symptom. The results were more satisfactory in the cases in which the rigidity of the ossicular chain was due to suppurative otitis media than in those resulting from other affections.

SCHEPPEGRELL.

Report of a Case of Double Mastoid Abscess With Openings Into the Cranial Cavities—J. FRANK CROUCH—*Journal of Eye, Ear and Throat Diseases*, Vol. iii, No. 3, July, 1898.

When first seen the patient had had a discharge from the right ear for nine weeks, which had ceased one week before. Upon its cessation the temperature began to fluctuate, ranging from normal to 103 degrees, and there was much pain in and behind the ear. The patient was feeble and anæmic; skin and conjunctiva yellowish; temperature normal; pulse 130, regular; great pain. There was a scant, thick, odorless, purulent discharge. Bulging of posterior superior wall of canal prevented view of membrana. Three small abscesses in the neck near the course of the jugular. Hearing nil in left ear.

On operating, the antrum and tympanum were found filled with pus, and the necrotic process was found to have involved the bone covering the lateral sinus, the blood current of which did not, however, appear to be interrupted. All the symptoms now subsided, but five weeks after the operation the left ear ceased to discharge and there was again pain, fever and insomnia, and it became necessary to open the left antrum. All the cells were filled with pus, and there was found destruction of the roof of the mastoid (?) [antrum—Ed.] over an area 3 or 4 mm. in diameter. This opening was enlarged sufficiently to expose the dura mater, and the wound dressed in the usual way. In ten weeks both sides had cicatrized and the hearing was nearly normal. EATON.

Cerebral Abscess and Phlebitis of the Sinus of Otic Origin—

CADE—*Lyon Méd.*, March 20, 1898.

The autopsy revealed an abscess as large as a pigeon's egg in the middle part of the right temporal lobe. There was phlebitis of the right lateral sinus and suppurative phlebitis of the jugular. A small abscess was found in each lung. There was a purulent exudate of both pleuræ and an abscess in the liver. SCHEPPEGRELL.

Stacke's Operative Exposure of the Middle-Ear and Its Recesses

for the Cure of Chronic Otorrhœa—KASPAR PISCHL—*Pacific Record of Medicine and Surg.*, Vol. i, No. 1, New Series, August 15, 1898.

Pischl gives an interesting account of the history of the operative procedures for exposure of the mastoid antrum and tympanum, and quotes Stacke and Macewen in support of their methods.

EATON.

Mono-Auricular Diplacusis—ETIÉVANT—*Ann. des Mal. de l'Or.*, etc., April 9, 1898.

Diplacusis is characterized by the fact that a sound is perceived twice; it is a symptom and not a malady, and is rare and usually bi-auricular. The author has observed two cases of the mono-auricular form, which is frequently of a temporary character and usually disappears under appropriate treatment. SCHEPPEGRELL.

VI. DIPHTHERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

The Prognosis and Treatment of Peripheral Facial Paralysis—

ALLAIRE—*Gazette Méd. de Nantes*, April 16, 1898.

In the treatment, the faradic current from a coil of coarse wire is recommended, as it produces energetic muscular contraction without pain. The current has a weak voltage, but great intensity. The induced current from a coil of fine wire should not be used as it causes too strong a contraction.

[As in many articles of this kind, the description of the electrotherapeutic treatment is perplexing, if not misleading. The voltage, for instance, refers to the intensity, and where the latter term is used, quantity is evidently meant. Experienced electro-theraputists admit, moreover, that the interrupted galvanic current is more useful than the faradic in these cases on account of its tonic effects. This is especially the case where the reaction of degeneration has already developed.]

SCHEPPEGRELL.

The Diagnosis and Treatment of Diphtheria—A. M. HENDERSON—

Occidental Med. Times, Vol. xii, No. 6, June, 1898.

The author gives a resumé of his subject according to prevailing and late views, and emphasizes the following points:

1. Delay in diagnosis in a case of diphtheria is dangerous.
2. A more serious result may follow mistaking diphtheria for tonsillitis than the reverse.
3. Antidiphtheretic serum has been proven to be a specific in experimental diphtheria in animals, and the great majority of the profession accept it as such in man.
4. To be efficient, antitoxine should be administered early and in full doses.

A full discussion of the paper by the members of the Sacramento Society for Medical Improvement is given in the same issue of the journal in which it is published.

EATON.

The Influence of Antitoxin in the Treatment of Laryngeal Diphtheria With and Without Intubation—E. ROSENTHAL—

Maryland Med. Journal, Vol. xxxix, No. 16.

Sixty cases are placed on record. Of these twenty-eight required intubation, and thirty-two were treated without intubation. Of the latter but one died; of those intubated eight died, giving a mortality of 28 per cent. Had intubation been performed in the one which died of the thirty-two, the author thinks it might have been saved, as the child died from suffocation. He concludes with the positive assurance that antitoxin has brought a remarkable change for the better in this destructive disease.

LEDERMAN.

The Value of the Use of Diphtheritic Antitoxin in the Treatment of Pseudo-Membranous Croup—JOHN R. HALL—*Proceedings Missouri Med. Assn., Kansas City Med. Record*, Vol. xv, No. 6, 1898.

The discussion revived the old question of the duality of the diseases, membranous croup and diphtheria. It was generally conceded in the discussion, however, that diphtheritic antitoxin is also useful in the treatment of membranous croup. EATON.

On a Special Form of Diphtheroid Angina—H. VINCENT—*Semaine Méd.*, March 16, 1898.

This angina is characterized by the development of a whitish patch on the tonsil and frequently upon one of the pillars, which is at first quite shallow, soft and rests upon an eroded surface which soon commences to ulcerate. When the ulcer is formed, the membrane becomes adherent at its bottom, bulging at the surface, and gives forth a fetid odor. There is dryness of the throat, dysphagia, a furred tongue, maxillary adenitis, more or less marked, and slight elevation of temperature. About the sixth day the false membrane is thrown off and recovery follows rapidly.

The pyriformed bacillus, which is found, cannot be cultivated nor inoculated in animals; it is occasionally found in healthy subjects. In fourteen cases observed, there were no complications. Treatment consists of the application of tincture of iodine and antiseptic gargles. SCHEPPEGRELL.

VII. INSTRUMENTS AND THERAPY.

Some New Throat Instruments, Etc.—G. H. MAKUEN—*Phila. Polyclinic*, Vol. vii, No. 30.

The instruments shown in the article are designed for diseases of the tonsil and palate, especially where adhesions exist between the gland and faucial pillars. LEDERMAN.

Ichthyol in the Treatment of Affections of the Respiratory Tract—LE TANNEUR—*Revue Medicale*, January 5, 1898.

Has found ichthyol useful in pulmonary tuberculosis and in various forms of acute chronic pharyngitis. It is administered in capsules containing four grains each and covered with a coating which enables the capsule to pass through the stomach into the intestines without being dissolved. From four to eight per day were taken at meal time. It appeared to cause no disturbance in the digestive tract. In some of the cases in which the general condition was altered there was an increase in weight from seven to eight pounds during the first month of treatment. SCHEPPEGRELL.

A New and Successful Treatment of Certain Forms of Headache—E. L. VANSANT—*Dunglison's C. and C. Record*, Vol. xix, No. 6.

It is particularly in frontal headache that the author has found forcible syringing of the nasal accessory sinuses with a stream of hot dry air so potent a remedy. In some instances the air was medicated, or nitrous oxide gas was employed.

The relief from this simple method was so quick and complete in some long-standing cases, as to be astounding. Where pathological changes existed, these were removed. But in some instances the surgical treatment was of no avail, but relief followed after the hot air douche.

The effect of this treatment is to open up the obstructed outlets, thus allowing retained gases or fluids to escape, and to restore the equilibrium of the atmospheric pressure. This method may possibly offer promise in certain forms of middle-ear catarrh, complicated by tinnitus.

LEDERMAN.

Benzosol in Diseases of the Respiratory Apparatus—M. PEY-SER—*Va. Med. Semi-Monthly*, May 27, 1898.

Dr. M. Peyser states that benzosol is the benzoate of guaiacol, and is a synthetic product. The author refers to a number of cases in which this agent has been used satisfactorily in various forms of chronic bronchitis.

SCHEPPEGRELL.

The Use of Aqueous Extract of Supra-Renal Glands, Locally in the Upper Air-Passages—H. L. SWAIN—*Am. Med. Surg. Bul-**letin*, Vol. xii, No. 13.

The author claims that this remedy is a powerful local vaso-constrictor, which is safe to use in very considerable amounts without deleterious effects locally or to the general constitution of the patient. Its application seems to heighten the effects of any drug used locally after it. It has its widest application in acute congestions and in certain chronic conditions of the hay-fever type, when redundant tissue seems apt to develop, it can be relied upon as a valuable adjuvant.

LEDERMAN.

Hæmostatic Action of Calcium Salts—M. SILVESTRI—*Am. Med.**Surg. Bulletin*, Vol. xii, No. 10.

The author has found good results in hemorrhages by the internal administration of some form of calcium. He gave one gramme every two hours until eight or ten grammes of the hypophosphite of calcium were taken. This treatment rapidly checked epistaxis, intestinal hemorrhages (typhoid) and other forms of bleeding. This drug is supposed to increase the coagulability of the blood.

LEDERMAN.

Ichthyol Inhalations in Acute Laryngitis—CIEGLEWICZ—*Przegl.**Lek.*, January, 1898.

In acute laryngitis the author recommends inhalations by means of an atomizer of a cold two per cent solution of ichthyol repeated twice daily.

SCHEPPEGRELL.

Formic Aldehyde in Tubercular Laryngitis—S. SOLIS-COHEN—*Am. Med. Surg. Bulletin*, Vol. xii, No. 26.

As the commercial form of this agent is offered in forty per cent solution it should be diluted to two, four, six, eight and ten per cent. It is to be applied on a mop with friction like lactic acid. Cocaine must first be painted on the parts. Begin with weak solutions and rapidly increase up to ten per cent. This remedy will destroy degenerate tissues.

LEDERMAN.

Argonin vs. Boric Acid in Acute Suppuration of the Middle Ear—GRAY AND THOMPSON—*Med. Review of Reviews*, Vol. iv, No. 8.

1. Argonin solution is highly antiseptic; boric acid is slightly so.
2. Argonin solution can be forced through a small perforation in the drumhead, thus reaching every part of the tympanum and Eustachian tube. Boracic acid lies inactive in the external auditory canal.
3. Argonin can be used to flush the middle ear and tube.
4. It excites a positive and decided effect upon the suppurative process.
5. It stimulates the closing of perforations in the drumhead.

A (2.5 per cent) solution is employed, after cleansing the canal and middle ear in the usual manner with carbolic solution or peroxide of hydrogen. Valsalva's method or the Politzer bag is then applied, and the canal dried. The argonin solution is then poured into the canal, and pressure made over the tragus. The application is painless.

LEDERMAN.

Treatment of Hay Fever—*Med. Review of Reviews*, Vol. iv, No. 7.

It is generally acknowledged that three factors are necessary in the causation of this peculiar affection, *i. e.*, neurotic predisposition, abnormal condition of the nose and an external irritant. An irritant capable of producing the attack may act purely through the imagination, as in the case cited by Mackenzie, where the sight of an artificial rose produced the paroxysm. Bishop gets good results from a treatment based upon the fact that an abnormal quantity of uric acid in the blood, causes a sensitive condition of the nasal mucous membrane.

He prescribes the mineral acids, lately employing Hosford's acid phosphate in one-half to a teaspoonful dose, well diluted, after meals.

Nitro-muriatic acid, in concentrated form, is also highly recommended by another observer. Five drops, well diluted, after meals, is the dose given.

Where the nasal mucous membrane is very sensitive; a 5 or 10 per cent solution applied to the sensitive areas usually gives decided relief.

LEDERMAN.

BOOK REVIEWS.

Die Gewerbe- und Berufskrankheiten des Ohres. By DR. M. KAHN, Würzburg, Germany. Monograph, 24 pages. Published by Gustav Fischer, Jena. American Agents, Lemcke & Buechner, New York.

This brochure is No. 12 of Vol. 2 of this excellent series of oto-laryngological clinics, edited by Dr. Haug of Munich. The author considers, in special paragraphs, Diseases of the Ear, influenced by various trades and pursuits: 1. Poisoning of the System (painters, lead workers, etc.) 2. Influence of Compressed Air (caisson workers). 3. Sudden Changes in the Density of the Air (cannoneers, blasters, etc.). 4. Continued Loud Noises (boiler-makers, etc.). 5. Railroad Employees.

An exhaustive bibliography is appended:

BOOKS AND PAMPHLETS RECEIVED.

Ear-ache, Causes, Treatment, Relation of the Exanthemata Thereto. By George L. Richards, M.D., Fall River, Mass. Reprint, Boston *Med. and Surg. Journ.*, July 28, 1898.

Orthoform and Extract of Suprarenal Glands. W. Cheatham, M.D., Louisville, Ky. Reprint, *American Tract and News*, Aug. 15, 1898.

The Pernicious Malarial Fever of the Tropics. By J. Edward Stubbart, New York. Reprint, *Med. News*, July 30, 1898.

Yellow Fever, Its Diagnosis and Treatment. By J. Edward Stubbart, New York. Reprint, *Med. News*, July 23, 1898.

Kryofine, an Inaugural Dissertation. By Eugene Bock, M.D., Zurich. *New England Med. Monthly*, May, 1898.

The Prevention of Diseases now Preying upon the Medical Profession. By Leartus Connor, A.M., M.D., Detroit, Mich. Reprint, *Bul. Am. Acad. Med.*, Vol. III, No. 9.

A Preliminary Report on a Method of Overcoming High Resistance in Crooke's Tubes; a Possible Step Toward Maximum Radiance. By W. W. Graves, M.D., St. Louis. Reprint, *American X-Ray Journ.*, April, 1898.

The Hygiene of the Ear, in Health and Disease. By Fayette C. Ewing, M.D. Reprint, *Dietetic and Hygienic Gazette*, April and May, 1898.

Colorado's Climate Upon the Upper Air Passages. By Robert Levy, M.D., Denver. Reprint.

Serious Consequences Following Intranasal Operations. By Robert Levy, M.D., Denver. Reprint.

NOTES.

Home Again.

Our esteemed confrere, Captain F. M. Rumbold, has returned to St. Louis at the head of his Battery of Light Artillery from active service in Porto Rico. The men of his command are in the "pink of condition," and were under the personal medical surveillance of their captain during the campaign.

Changes of Address.

Dr. Seymour Oppenheimer has removed to 706 Madison ave., between 62d and 63d st., New York City.

Dr. Wm. Spencer has removed to 1820 Chestnut st., Philadelphia.

Dr. Emil Amberg has removed to 32 Adams ave., West Detroit, Mich.

Appointments.

Drs. St. Clair Thomson and F. Powell have been appointed physicians, and Dr. H. Tilley and Mr. Charles Heath have been appointed surgeons to the Throat Hospital, Golden Square, London.

Dr. Bloch has been appointed Professor of Otology at the University of Freiburg, Germany.

Necrology.

We note the death of another active worker in oto-laryngology. Dr. James E. H. Nichols of New York, aged 41 years, died Sept. 10th in Sapphires, N. C. With the passing away of Dr. Nichols the profession has lost an energetic, conscientious and faithful representative.

THE LARYNGOSCOPE.

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ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

NASAL HYDRORRHŒA.*

BY ST. CLAIR THOMSON, M.D., M.R.C.P. LOND., F.R.C.S. ENG.

Physician to the Throat Hospital, Golden Square; Surgeon to the Royal Ear Hospital,
London.

Attention appears to have been first attracted to this subject by Bosworth in 1889 by a chapter devoted to nasal hydrorrhœa in his well-known "Diseases of the Nose and Throat." He therein collected and published eighteen cases of which he considered the details were sufficiently clear to warrant them being embraced under the heading of nasal hydrorrhœa. A critical examination of these eighteen cases has forced the author to the conclusion that six of them were undoubtedly instances of other morbid affections and that nine were most probably dependent upon pathological conditions quite unconnected with the nasal mucosa, so that of the original eighteen cases only three really justify their association under the title of nasal hydrorrhœa. The author has been led to this view by his studies in connection with a case shown before the Laryngological Society of London, where, in an otherwise perfectly healthy subject, cerebro-spinal fluid with rare intermissions escapes day and night from one side of the nose. This case, together with

*Author's abstract of a paper read at the Edinburgh Meeting of the British Medical Association, 1898.

the reports by other observers of seven undoubtedly similar cases, and twelve cases which were most probably identical, will be found fully recorded in Vol. lxxxii of the *Medical and Chirurgical Transactions*, 1898. It is claimed that of Bosworth's eighteen cases of nasal hydrorrhœa no less than thirteen were most probably instances of what should be called cerebro-spinal rhinorrhœa. In the communication to the *Medical and Chirurgical Transactions* each of these thirteen cases is considered separately.

The writer deals at length with the chemical and clinical signs which distinguish cerebro-spinal fluid from intra-nasal secretion, and considers the question of the possibility of the hydrorrhœa originating in the accessory sinuses of the nose. Excluding all cases in which the discharge simply traversed the nose on its way from other cavities and all those in which it is due to direct or reflex irritation, the conclusion is arrived at that what has been regarded as a distinct morbid entity is in the majority of cases but a symptom of various affections. Yet it is held that the term of nasal hydrorrhœa may still be preserved if we limit it by defining the affection as one in which there is profuse watery discharge secreted by the nasal mucosa and not dependent on intra-nasal or neighboring sources of irritation. The amount of the fluid may vary from only what the patient would term a slight running, up to as much as a pint in the twenty-four hours. The clinical picture of nasal hydrorrhœa shades off in one direction into cases of what are generally called hay fever or paroxysmal rhinitis, with symptoms of intense local irritation, while in the other direction they may consist of a passive and almost painless watery discharge from the nose.

It appears to be an affection of adult life affecting males and females indifferently. Although it may be more marked on one side than on the other, the flow usually takes place from both nostrils. When handkerchiefs are soaked with it they generally dry stiff.

The author's contribution only claims to have advanced the matter one step by distinctly differentiating those cases where the nasal watery flow is really an escape of cerebro-spinal fluid. The importance of making this differential diagnosis is obvious. When such a character of the fluid is suspected it is important to avoid any local interference, from the risk of infection. In the cases presenting the conditions to which it is proposed to limit the term nasal hydrorrhœa the treatment can be only such as we have all tried in cases of hay fever. That is to say, quite empiric, with occasional brilliant results and frequent failures. A plea is entered for mod-

eration in the energy with which so many practitioners use the galvano-cautery. The mucous membrane is easily destroyed, and while the formation of scar tissue may give a sense of immediate relief, the after results may be worse than the original disease. Careful general treatment, hygienic, dietetic and climatic, with possibly a visit to a suitable spot will generally secure very satisfactory results.

Purulent Discharge from the Nose; Clinical Significance and Differential Diagnosis—GEORGE E. SHAMBAUGH, Chicago—*Med. Standard*, September, 1898.

In a discussion of the subject the author arrives at the following conclusions:

1. Purulent discharge from the nose is a common symptom of intranasal disease.
2. Its presence may be detected by the patient, but often he complains only of the secondary symptoms produced by the pus.
3. Older writers described all these cases as "purulent rhinitis," etc., and never suspected what we now know to be true, that in the majority of cases the pus has its origin in one of the accessory cavities of the nose.
4. Pus in the nose may come from (*a*) disease in the nose itself (*b*), suppuration in the accessory sinuses (*c*), or suppuration in post-nasal space.
5. The diseases in the nose are (*a*) purulent rhinitis, found in children, in acute infectious fever, in acute rhinitis and gonorrhœal infection (*b*), ulceration, either traumatic as the erosion in the anterior nares, the idiopathic perforation, ulceration due to action of chemical agents, foreign bodies, larvæ of insects and perichondritis; or tubercular or syphilitic.
6. The accessory sinuses of the nose form two groups: the first group, including the maxillary and frontal sinuses and the anterior ethmoid cells, opens into the middle meatus of the nose. The second group, including the sphenoid and posterior ethmoid cells, opens into the olfactory space between the middle turbinated bone and the septum.
7. A differential diagnosis of diseases of these cavities is one of the most difficult problems in rhinology. It requires a knowledge of the whole field of the technic of intranasal examination and a thorough knowledge of the complicated anatomy of the nose and its accessory sinuses.

STEIN. (BISHOP.)

CASE OF HAY ASTHMA—TURBINECTOMY, FOLLOWED BY IMMEDIATE AND COMPLETE RELIEF.

BY L. B. LOCKARD, M.D., TOLEDO, OHIO.

J. F., aged forty-seven, came to me with the following history: Six years ago had his first attack of hay fever, beginning in the latter part of August and continuing until the first frost. Each year thereafter the attack recurred at about the same time; ever with increased severity.

For the past three years, about the middle of the second week, asthmatic symptoms have developed, until, in the present attack, they predominate over the pure hay-fever manifestations.

To the great dyspnœa is added an harassing cough, copious nasal discharge and violent attacks of sneezing. Upon examination the turbinate bodies of the left side were found to be slightly œdematous and bluish gray in color. The right inferior turbinate was so œdematous that it filled the entire anterior nares, and, being freely movable, resembled greatly a mucous polyp.

At 7 o'clock of the same night the anterior end of this turbinate was removed with the cold snare and after ninety minutes, there being no hemorrhage, the patient was permitted to go home. No packing was introduced in order to do away with all unnecessary irritation. Fifteen grains of chloral at bed time on the night of operation was the only medicine administered throughout the entire attack. He returned two days later with the statement that from the moment of operation he had been absolutely free from every manifestation of the disease. This, despite the fact, that he returned to work the following morning in a retail seed store where the air is constantly impregnated with dust. Three weeks have now passed and there has been no return. While a cure cannot be claimed, the abrupt termination of all symptoms was certainly remarkable.

ALBUMINURIC TONSILLITIS—REPORT OF A CASE OF SPONTANEOUS HEMORRHAGE FROM THE LEFT TONSIL.

DR. GEO. F. KEIPER, A.M., M.D., LA FAYETTE, IND.

Eye, Ear and Throat Surgeon to St. Elizabeth Hospital, St. Joseph Orphan Asylum, Indiana State Soldiers' Home, Etc.

On April 19, 1898, Dr. M. M. Lairy, of this city, kindly referred to me Mr. R., unmarried, for inflammation of the throat. His age is thirty-two. His appearance is of one having grave kidney trouble, for which the doctor was prescribing. The urine contained large quantities of albumen. His personal history is a clean one. He has been losing strength and appetite. For several days he has been unable to sleep of nights lying down in bed, but has been compelled to obtain sleep as best he could sitting in his chair.

Examination of the throat revealed at the superior portion of the left tonsil an ulcer the size of a gold dollar. It was covered with an exudate which resembled that seen in diphtheria. This was easily removed without causing any bleeding of the surface underneath. After removal the tonsil appeared as if some one had ruthlessly scooped out a piece with a sharp spoon. It was treated locally with a 12½ per cent solution of argentum nitrat. Dr. Lairy looked after the general condition. Again, on the morning of April 21, the same application was made after removing the exudate. At four o'clock the same day I was called to his residence and found him bleeding from the spot of ulceration. The hemorrhage was only moderate in amount, yet sufficient to be distressing to the patient and annoying and alarming to the family. A mixture composed of equal parts of dry tannic acid and antipyrin was put into the ulcerated spot and the hemorrhage ceased immediately. At seven p. m. I was again summoned and found the patient bleeding again. This time it was worse. For two hours he bled in spite of the above mixture and injections, hypodermically, of ergot and hot water. He was then taken to St. Elizabeth Hospital in order that the cautery might be used, but soon after his arrival the hemorrhage began to lessen and finally ceased, to recur no more. The patient's general condition became worse, however, and finally, on April 28, just nine days after I first saw him, he died.

This is a remarkable case. The literature at my command does not

parallel it. In searching for an explanation of the phenomena presented I find one concerning the similar phenomena of albuminuric retinitis, in the third volume of "Norris and Oliver's System of Diseases of the Eye," on page 524, at the bottom of the page, which fits our case.

The article was written by Joseph Schöbl, M. D., of the University of Prague, which is translated by Adolf Alt, M. D., of St. Louis, Mo. He says: "The most important changes are found in the blood vessels, especially in the arteries. In 1857 Heinrich Müller saw a case of Bright's disease in which the blood vessels, especially those of the choroid, were narrowed by proliferation and fatty degeneration of their endothelium. Leber found in albuminuric retinitis that the walls of the arteries were changed into a homogeneous yellow shining tube with narrow lumen; this was the case especially with the small arteries and capillaries, while the larger arteries showed no sclerosis, but merely moderately thickened walls. The work of Duke Karl Theodor is of especial importance concerning this point. The main factor in the pathogenesis of albuminuric retinitis he considers to be an arteritic process of all the blood vessels of the eye, either an endo, or a meso, or a peri-arteritis, with narrowing of the lumen, especially of the smaller vessels. This explains the inflammatory and degenerative processes and the hemorrhage in the retina and choroid. * * * These circulatory conditions in the retina and choroid, which somewhat resemble those found in the kidneys, bring about a condition, especially after the area of the renal blood vessels has been obliterated and the blood pressure is accordingly increased, in which the blood stream is retarded in these two membranes and the toxic substance in the blood remains longer in contact with the blood vessels' walls, and hence causes their diseased condition. When the lamina are considerably reduced or obliterated, a dropsical necrosis results as well as an extravasation of the constituents of the blood and hemorrhages. * * * Michel has found hyaline degeneration of the walls of the arteries in the retina, choroid and kidneys and considers these changes due to a common cause."

What is thus true of retina and choroid in blood vessel changes undoubtedly is true with reference to the changes which took place in the blood vessels of the tonsils of the case reported above. No autopsy was obtained in the above case. But with these facts before us we have no hesitancy in pronouncing it a case of albuminuric tonsillitis.

BILATERAL PARALYSIS OF THE POSTERIOR CRICO-ARYTENOID MUSCLES OF THE LARYNX, WITH REPORT OF A CASE.*

BY ALBERT RUFUS BAKER, M.D., CLEVELAND, OHIO.

Professor of Diseases of the Eye, Ear and Throat in the Cleveland College of Physicians and Surgeons; Oculist and Aurist to the Cleveland General, St. Alexis and City Hospitals.

Although the literature of bilateral paralysis of the abductors of the larynx is more extensive than that of any other laryngeal neurosis, the number of cases reported are few. Indeed it is a rare disease. The case I wish to report is the only one I have ever seen. A cursory examination of the literature at my command leads me to think that not more than fifty cases have been reported. Cases must have occurred before laryngoscopic days, but were never recognized until comparatively recent times.

I was called in consultation with Dr. J. Perrier on the evening of November 7, 1895, to see Mr. D., aged forty-two years, superintendent of a large manufacturing establishment. Married; no children. Always enjoyed good health with the exception of the ataxia, and no specific history, although he has led a somewhat irregular life and during his youth had probably had sufficient opportunity to contract specific disease. Mr. D. has been under the care of Dr. Perrier for several years for posterior spinal sclerosis. Has complete absence of knee-jerk; is unable to stand with the eyes closed; obliged to walk with a cane, and has severe lightning pains in the legs; a feeling of a tight band around the abdomen, and typical Argyll-Robertson pupil; no atrophy of the optic discs. During the past year Mr. D. has suffered repeated attacks of dyspnoea, usually coming on suddenly after some unusual expiratory effort, either in sneezing, coughing, laughing, hiccough or shouting. At first the attacks were rather infrequent and were not so severe, but during the last two or three months they have been occurring almost daily, and sometimes two or three times a day.

During the attack there seemed to be no obstruction to expiration but the most violent efforts at inspiration were made, the eyes becoming fixed, the lips and face purple. Normal respiration was only restored upon his fellow-workmen placing him upon the ground, rolling him over a barrel, "walking all over him." to quote his own

*Read before the Ohio State Medical Society, at Columbus, Ohio, May 4, 1898.

words. These attempts at artificial respiration were usually successful in a few minutes, sometimes requiring half an hour, after which he would return to work as though nothing had happened. His speaking or singing voice was not affected.

A laryngoscopic examination showed the vocal cords, when at rest, to be slightly separated; it would seem scarcely enough to permit free respiration. During phonation they close normally, but during respiration did not separate widely so as to form a triangle as they do in health.

A diagnosis of paralysis of the posterior arytenocricoid muscle was made, and it was suggested that he go to the hospital and have a tracheotomy performed as soon as possible.

He was admitted to the Cleveland General Hospital on the next day, and on the morning of November 9 an attempt was made to administer a general anæsthetic, but resulted in an immediate interruption of respiration, so that the general anæsthetic was discontinued and tracheotomy performed under cocaine anæsthesia. There was no special difficulty met with in the operation, and the patient made an uninterrupted recovery, and immediately returned to his occupation, which he has followed up to the present time with scarcely the loss of a day.

He wears the tracheotomy tube constantly, with a cork in it, tied to a string. Whenever one of these suffocative attacks comes on, he pulls out the cork and normal respiration is immediately restored, he then replaces the cork and soon goes on about his work as usual. His wife tells me that these attacks occasionally come on in the night, when he pulls out the cork and replaces it without waking. The ataxia has apparently remained stationary—no better no worse.

A few weeks ago he secured a life insurance policy for \$2,000 in an industrial life insurance company. During the first year after the operation he had some difficulty in securing a satisfactory tracheotomy tube; they would break and get out of repair, and it became necessary to have a new one at short intervals, and they were also hard to keep clean, and from their irritating properties would frequently cause excessive granulations to spring up around the tube; so that we replaced the metal tube by a soft-rubber one, a sample of which I present to the Society. I am indebted to my colleague, Dr. George W. Crile, for the suggestion as to using soft-rubber tubes instead of those of hard rubber, or of metal as hitherto. I have never yet met a case in which they have given better satisfaction to the patient as well as myself, and I believe that they should come into more general use than the older style tubes which have been in use since time immemorial.

As to the pathology of these cases there has been considerable diversity of opinion, some authors maintaining that the disease was a local one probably due to an injury of the posterior cricoarytenoid muscles from swallowing fish bones, artificial teeth or other hard substances. Others have reported cases due to lesions in the course of the recurrent laryngeal nerves, such as aneurism and tumor. The more commonly accepted explanation of this exceedingly interesting and curious malady is that of a morbid condition of the nerve centers.

It is probable that a more careful post-mortem examination of tabetic patients will demonstrate that the opening of the glottis is presided over by an independent ganglionic center in the upper portion of the medulla, and degenerative changes of this center like those of the posterior columns of the cords, or the optic nerves, will be recognized as the pathologic lesion in the vast majority of these cases.

I am quite willing to concede in view of the clinical evidence already accumulated that there are other etiologic factors which must not be overlooked in these cases, such as pressure on the recurrent laryngeal nerves, hysteria and traumatism of the posterior cricoarytenoid muscles.

The Pathology of the Voice Center—ONODI—*Monatschr. f. Ohrenh.*, January, 1898.

Research has established the existence of a cortical center for phonation and furthermore that each center controls both vocal cords.

There is still considerable controversy as to the crossed paralysis of the cords due to cerebral lesions. Experimentations upon dogs have yielded interesting results. Thus, the entire brain above the corpora quadrigemina may be removed without impairment of the voice. When the brain is completely divided at the upper part of the medulla, loss of voice ensues. Onodi maintains that these results indicate the existence of a "sub-cerebral center for phonation," situated between the root of the vagus and the corpora quadrigemina. The author cites the observation that children delivered with perforation and monsters in whom the medulla is developed as far as the corpora quadrigemina, still retain the voice.

The conclusion is reached that it is impossible to localize even an approximate voice center.

GOLDSTEIN.

INTUBATION OF THE LARYNX FOR MEMBRANOUS STENOSIS.*

BY BERNARD WOLFF, M.D., ATLANTA, GA.

It is with some misgivings that I present for your consideration so trite a subject as intubation. The condition which imperatively demands prompt operative interference in this direction may fall within the practice of every physician and the life of the patient may depend upon his fitness and preparedness to meet the emergency.

Fortunately for us in the South, diphtheria is not the scourge that it is elsewhere, but it does exist and its severity undergoes no mitigation by reason of geographical considerations.

In my opinion the ability to perform the operation of intubation should be as much a part of the professional equipment as the knowledge of how to pass a catheter or apply the forceps. The difficulty of the operation is overestimated. Anyone is capable of performing it who has ordinary dexterity and some knowledge of the anatomy of the throat.

All that is required is a certain amount of practice on the cadaver or on lower animals or the closed fist, and even this is not absolutely essential, as many operators have successfully performed the operation at the first essay.

The principal drawback is the expense of an intubation outfit. It is hoped that in time it may be so reduced as to come within the reach of all and even this shred of an apology will be swept away.

It is not often that one's fame becomes permanently established upon the introduction of a single surgical method, yet the name of Joseph O'Dwyer, who has so recently passed to his eternal reward, will be cherished so long as diphtheria shall claim its victims as that of one whose genius made it possible to remove from that dark shadow so many little children.

Intubation, by which is meant the introduction of a metallic tube into the larynx through the mouth for the relief of dyspnœa from obstruction had long been foreshadowed. Catheterization of the larynx had been proposed and actually practiced before Bouchut, of Paris, in 1858, advocated the insertion of a metal tube into the larynx for the relief of stenosis. Bouchut's method never became popular and

*Paper read before the Southern Section of the American Laryngological, Rhinological and Otological Society in Atlanta, Ga., March 28, 1898.

soon fell into disuse. It remained for Joseph O'Dwyer in 1880 to quite independently elaborate his conception and to give to the world what was to him a real invention. So carefully and completely was his idea evolved and so correct the mechanical principles upon which he founded his device, that it is to-day practically the same as when first introduced. No modification has offered improvement sufficient to materially alter the original form of the tubes or to facilitate the *technique* of the operation.

The principal advantages offered by intubation over tracheotomy and those which gained for the former the speediest recognition are its simplicity, its comparative freedom from intrinsic danger and its avoidance of the open wound and subsequent close attention required by the older procedure.

Malgaigne remarked: "If I do real honor to the author of tracheotomy, what honor will he not deserve who shall come to deliver us from it."

It may be regarded as established that intubation is indicated in every instance in which dyspnœa is caused by laryngeal obstruction except when due to lodgment of a foreign body in such a manner that the introduction of a tube is mechanically impossible. Tracheotomy is here to be preferred and also where intubation has failed to produce the desired effect. This is the legitimate field of tracheotomy in which intubation has no desire to poach.

The contention between the advocates of the two methods has settled down upon the common agreement that tracheotomy shall be the handmaid of intubation.

A question of the first importance is, when shall we operate in croup? In common with many other therapeutic procedures involving mechanical interference, intubation is often deferred too long, when earlier operation would have greatly influenced the prognosis. It should by all means not be reserved as a last resource in urgent dyspnœa with cyanosis and exhaustion. It is more appropriate to employ it to prevent this condition than when it actually exists.

The character of the respiration offers the proper indication for the operation. When dyspnœa is progressive, breathing largely abdominal, increasing evidences of faulty oxygenation of the blood, intubation is demanded. Attention has been called by Bayeux to an indication for the operation furnished by the contraction of the accessory muscles of respiration. Their action consists of a rhythmic tension, persistent and synchronous with the inspirations. The muscles are engaged in this order: trapezius, omo-hyoid, scalenus anticus, sterno-cleido-mastoid. Rauchfuss, of St. Petersburg, thinks this

sign is no more to be relied upon than that observed forty years ago by Gerhardt of failure of the pulse in inspiration called inspiratory asystole and described by Variot as paradoxal pulse.

The state of the breathing furnishes a more reliable and more easily observed sign than the foregoing and is a quite sufficient guide to the proper time for operative interference.

The instruments required for intubation are six tubes gauged to the age and size of the patient, an introducer, silk thread, an O'Dwyer-Denhard gag, a gauge and an extractor.

Preparations for the operation must be carried out as rapidly as possible, for unnecessary loss of time may prove disastrous.

The child is taken up and put upon the nurse's lap in a sitting posture, the head resting upon her left shoulder. A sheet or blanket is wrapped around it so as to confine the arms to the sides. The operator then selects the appropriate tube and runs a thread of stout silk eighteen inches to two feet long through the eye in the head of the tube. The obturator is then screwed firmly on to the introducer. The position of the child may then be somewhat altered by having the nurse advance her shoulder in such a way as to bring the neck on a vertical line with the body. The gag is then introduced into the left side of the mouth, the blades widely separated and held in position by an assistant who at the same time steadies the head.

It is sometimes necessary in rebellious children to use the tongue-depressor to force open the mouth. It is inserted behind the molar teeth, brought around forward and then pushed backward until the pharynx is touched and the gagging reflex aroused. The operator may take advantage of the opening of the mouth at this time to insert the gag.

Force in using this instrument is unnecessary. Injury to the teeth and gums and even fracture of the jaw has occurred from rude and unskillful use of it.

The gag being in position, the operator either sitting or standing, introduces his left index finger into the mouth, passes it backward until he feels the epiglottis. The finger should be protected from injury with adhesive plaster or bandage, leaving the tip free. The epiglottis is hooked up, exposing the rima glottidis. The tube secured to the introducer is passed along the side of the finger, keeping well in the middle line until the point impinges upon the chink of the glottis into which it is guided by the tip of the finger. The finger is then placed on the head of the tube to hold it in position and the obturator freed from the tube by pushing forward the thumb piece on the handle of the introducer, and rapidly withdrawn. The

thread is then looped around the patient's ear and the gag removed. Elaborate instructions as to manipulating the introducer are not essential and may even be reprehensible as too great attention to mechanical detail may obscure the main purpose in view, the rapid insertion of the tube into the larynx. If the tube be kept accurately in the middle line it matters little how the introducer be held, as the intermittent finger is a sufficient guide.

No more force than is absolutely necessary should be employed and as a matter of fact very little force is required, usually not more than that exerted in passing a catheter.

When it is clear that the tube is in position, the thread may be cut through, including the knot and withdrawn, first inserting the finger again to steady the tube. It is a small but useful point to remember to cut away the knot in the thread to avoid the disagreeable accident of jamming it into the eye of the tube.

The indications of successful introduction of the tube are relief of dyspnœa, and violent, straining cough. It is important that this cough should be present, as it causes expulsion of loose membrane. If it be absent a drink of whiskey or brandy should be given to excite it.

Sometimes the cough is so violent as to forcibly eject the tube. One should be always on the alert for this accident, so that it may be immediately rectified by reinserting the tube if necessary. It occasionally happens that the cough which is forceful enough to expel the tube clears the larynx at the same time of membrane detached by the tube, and reinsertion is not immediately indicated. Insertion and moving the tube up and down in the larynx to attain this object is recommended by some French authors under the name *echonvil-lonage*.

The most frequent accident in the operation of intubation is passing the tube into the œsophagus. It is most likely to occur at the hands of inexperienced operators and is evidenced by failure to produce any effect upon the breathing, and by shortening of the thread as the tube recedes. The tube may be swallowed in this way when it ultimately passes by the bowels, but the accident is readily recognized and the tube regained with the thread and another attempt at introduction may be made.

Pushing down the false membrane below the tube may occur, though rarely. Almost complete apnœa marks this mishap. The tube should be withdrawn immediately and artificial respiration employed. The membrane may have been detached sufficiently to be coughed out. A case in point has been reported in which a cast of the larynx and trachea was got rid of in this manner. Passing the

tube into the ventricles of the larynx and even through its walls into the surrounding cellular tissue may happen in the hands of bungling operators. It can be avoided by having in mind the precaution to keep the tube well in the middle line and using no unnecessary force.

Not infrequently from deforming œdema the epiglottis loses its value as a landmark. In such cases, the hard nodule—the upper border of the cricoid cartilage behind the epiglottis should be felt for and when found will furnish the necessary guide.

It is generally advisable to leave the thread attached to the tube in order to facilitate withdrawal in case of the occurrence of any of the accidents mentioned above. As the first impulse of the child when his hands are freed is to grasp the thread, the part within the mouth should be passed between two of the molar teeth and out at the angle of the mouth so that it may not be bitten in two, while the part outside of the mouth should be covered with a strip of adhesive plaster throughout its whole length upon the cheek. If the circumstances of the case admit, it is always best to remove the thread, as it is a source of annoyance to the child from irritation of the throat. Feeding after intubation is at first difficult: the epiglottis may be swollen and does not fit accurately over the head of the tube, allowing small quantities of fluid to gain access to the larynx during deglutition. The child must be laid on its back, with the head low and fluid nourishment be swallowed, so to speak, “up-hill.” This method was introduced by Casselberry, of Chicago, and overcomes the difficulty to a considerable extent. After a time the larynx becomes more tolerant and food may be administered in the usual position. Semi-solid food may be given instead of fluid and is somewhat less apt to cause trouble.

How long should the tube be retained? There is and can be no rule applicable to the retention of the tube. The condition of the breathing is the only rational guide. If this be satisfactory the tube may be removed with safety. Usually three days to a week is a sufficient length of time for the tube to remain, though this is dependent entirely upon the course of the disease.

It has been shown in cases of chronic stenosis that a tube, if properly fitting, may be retained indefinitely without injury to the larynx. Pain and discomfort with repeated blackening of the lumen of the tube with membrane are counter-indications for its retention. Reinsertion may be made whenever necessary, so that tentative removal may be practiced.

Extraction is regarded as more difficult than introduction, though I cannot say that this has been my experience. It is accomplished in a reverse manner to introduction. The patient is put in position,

gagged and the left index finger introduced into the mouth and passed down to the head of the tube. The extractor is guided into the lumen of the tube and the blades opened. The tips of the blades are united and gaining a firm hold on the tube readily remove it. Prolonged attempts at extraction are to be condemned; repeated short attempts do much less harm. In cases of emergency, when the operator is not at hand, extraction of the tube may be effected as with foreign bodies. Inversion of the patient, pushing up the trachea from the suprasternal notch while the larynx is steadied may bring the tube within reach of the finger or forceps.

Prognosis.—The prognosis of intubation has been so altered by the use of antitoxin that it may now be regarded as almost favorable. It is certain that the appalling mortality of pre-antitoxin days does not now obtain, if the serum be employed early enough. I have had but two cases since the introduction of the serum treatment. Both terminated fatally, but in both the serum was administered too late to be of any avail.

The following quotation from the *American Year Book of Treatment* for 1897, shows the relation of antitoxin to the prognosis of laryngeal diphtheria: "The committee of the American Pediatric Society appointed to investigate the value of antitoxin in laryngeal diphtheria reports that 1,704 cases were collected, giving a mortality of 21 per cent. The mortality of 637 intubations was 26 per cent; of 20 tracheotomies, 45 per cent; of 11 tracheotomies, subsequent to intubation, 63 per cent; of 1,036 non-operated cases, 17 per cent.

It is emphasized, first, that before the use of antitoxin 90 per cent of laryngeal diphtheria cases required operation, whereas now with antitoxin 39.21 per cent require it; second, the percentage figures have been reversed. Formerly 27 per cent represented the recoveries, while now under antitoxin there is a mortality of 27 per cent."

In the *Virginia Medical Monthly* for September, 1891, I reported my first sixteen cases of intubation occurring in my service at the Willard Parker Hospital, New York.

Among these there were ten deaths and six recoveries, or a recovery percentage of 37.5. This was then regarded as an excellent showing. According to the statistics of the collective investigation just quoted the figures in these cases would now be reversed.

I have given nothing new in this rather desultory account of intubation and nothing that cannot be found in any work on the subject. But I feel assured that the presentation of the facts anew cannot fail to convince the hearer that the operation is a life-saving measure and is unique in its sphere of utility.

So well as I can now recall, I have never yet seen any reports of cases of intubation coming from the South. I cherish the hope that even this modest presentation of the subject may serve to arouse the spirit of investigation which may lead to a more general recognition among us of the value of intubation and a more personal knowledge of and familiarity with its technique. It is our clear duty to avail ourselves of every practical means to further the main purposes of our calling—the prevention of disease and the prolongation of human life.

A Report of Thirty-eight Consecutive Intubations for Diphtheritic Croup, with Thirty-six Recoveries; all Treated with Antitoxin—F. E. WAXHAM—*Phil. Med. Journal*, June 18, 1898.

The author states that of thirty-eight cases operated upon five were under two years of age, with four recoveries, or 80 per cent.; eleven were two years old, with eleven recoveries, or 100 per cent.; six were three years old, with six recoveries, or 100 per cent.; seven were four years old, with six recoveries, or 85.7 per cent.; two were five years old, with two recoveries, or 100 per cent.; six were six years old, with six recoveries, or 100 per cent.; one was eight years old, with one recovery, or 100 per cent. Total, thirty-eight cases with thirty-six recoveries, or 94.7 per cent.

The good results are attributed to the use of antitoxin. Previous to the use of this agent the mortality was 35 per cent.; with antitoxin the mortality is 5.3 per cent. To be of value, antitoxin must be given early in the disease, in full dose, and repeated as often as necessary.

SCHEPPEGRELL.

Intubation and Antitoxin in Diphtheritic Croup—ALBERT B.

STRONG, A.M., M.D.—*Chicago Medical Recorder*, Sept. 1898.

The writer reviews a former article in which he gives the result of his experience in 100 intubations and 27 tracheotomies. Of the former 32 per cent., of the latter 22.2 per cent., recovered. The great frequency of the recurrence of the false membrane was especially noticed time and again. Antitoxin was not used in any of these 100 cases. Since then he has used it a number of times, and found it has undoubted power in arresting the growth of the membrane. His experience leads him to think that intubation with antitoxin has been more successful than intubation without the remedy, saving for him 50 per cent. of the cases.

STEIN. (BISHOP.)

CASE OF ABSCESS OF TEMPORO-SPHENOIDAL LOBE— OPERATION—RECOVERY—REMARKS.

BY HERBERT TILLEY, M.D., B.S. (LOND.), F.R.C.S. (ENG.)

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London.

Cases of intracranial suppuration relieved by operative interference are of such constant recurrence that I almost hesitate to insert the notes of the following case recently under my care; there are, however, one or two points in the previous history of the case as well as in its more recent progress under treatment, which may be of such interest to the general surgeon and aurist as to make it worth while placing the details on record. The history is as follows: Patient is a girl of nine years of age, and four years ago she had a discharge of pus from the left ear, which has never ceased for more than a week or ten days at a time. When six years old the discharge ceased, violent headache on the left side supervened, the patient was very ill and was sent to a hospital, where an operation was performed at the back of the ear and which relieved all her symptoms so that in three weeks' time she left the hospital apparently cured. The discharge from the meatus, however, never entirely ceased, and recently she has suffered from bad earache. About March 25 the discharge suddenly stopped, she became very ill and was sent to the hospital on the afternoon of March 30th, when I made the following notes: Patient is a thin girl, age nine years. She looks very ill and her cheeks are flushed. Both pupils very widely dilated, no optic neuritis. Temperature 98.6° ; pulse 70. Behind the left ear there is the scar of an old operation; there is no discharge from the left meatus, which is, however, considerably narrowed. She lies curled up in bed with the eyes closed, and resents any interference, but when thoroughly roused answers questions intelligently but slowly. She says her head aches "all over." A dose of castor oil was administered, followed by an enema next morning, the bowels acted twice. During the night patient was restless and gave utterance to short, plaintive cries, and on two occasions the night nurse says she became opisthotonus.

March 30.—The general condition remains the same, the condition of irritability strongly reminding one of that exhibited by a patient suffering from "lacerated brain." Pulse 54° , regular. Whilst examining the meatus a free flow of viscid, green, horribly

fetid pus escaped, much more than could be contained in the meatus and antrum alone. I therefore determined that we had to deal with a cerebral abscess discharging through the meatus. The patient was at once anæsthetised (chloroform), and during the process the pus continued to run freely from the meatus. The stench was intolerable and could only be partially overcome by saturating everything in its neighborhood with eucalyptus oil. • I made a curved incision behind the left ear, including the scar of the old incision; on turning the ear forwards we came at once onto a quantity of foul granulations filling the antrum, whose outer wall was deficient (previous operation). This cavity was cleaned out by curettes and sharp spoons and found to communicate very imperfectly with the tympanum, the intervening lamina of bone not having been removed at the first operation. I need scarcely say that it was removed now and the antrum, attic and tympanic cavity thrown into one. The bony roof of the antrum was absent and composed of soft granulations through which I carefully inserted the points of a Lister's sinus forceps, on dilating these a further flow of foul pus occurred. The forceps were inserted for one and a half inches into the abscess cavity in the brain substance.

A rubber drain tube the size of a goosequill was passed into the abscess for about two inches—the upper end of the wound drawn together by two stitches, irrigated with 1 to 2,000 perchloride of mercury, lightly plugged with iodoform gauze and over all a cyanide of mercury dressing applied.

Three hours after the operation patient asked for some bread and butter.

April 1.—Patient was much brighter and took active interest in her surroundings. Pulse very irregular, strong, 78 per minute. Temperature 99°.

The dressings were removed and on slightly shifting the position of the tube, pus again flowed freely through it. By passing a Weber Liel intratympanic catheter fixed on rubber bottle through the drain tube, which it did not occlude, I was enabled to irrigate the abscess cavity with perchloride of mercury 1 to 2,000 without removing the rubber drain.

For a fortnight matters progressed rapidly and the little patient was running about the wards—the discharge was clear, very slight and free from smell, but on April 16—(more than a fortnight since the operation) she complained of some frontal headache and voluntarily went to bed. There was no fever and pulse was normal. The right pupil much larger than the left—tongue clean, bowels open.

April 17.—The patient has been whining with pain (headache)

during the night and has had no sleep. The headache is frontal. Pulse is 120 and temperature 102° , pupils dilated and cheeks very flushed. She has vomited several times without any preliminary nausea. Calomel, gr. ii, was given, after which, during the next eight hours, the bowels acted three times.

April 18.—Her condition remains the same, if anything, worse. Pulse 130, irregular; temperature 102.4° . The patient's attitude and general condition seemed to point to a possible spreading of some septic condition from the wound, inducing meningitis, and under chloroform anæsthesia the wound was thoroughly examined and a small disc of bone was removed by a one-quarter inch trephine immediately above the level of the antrum and then the piece which intervened between the trephine aperture and the pathological opening in the roof of the antrum was removed.

No pus was found either between the dura mater and the skull for an area of two inches around the opening, or in the substance of the temporo-sphenoidal lobe, which was explored in four different directions. The drainage tube was not replaced. At the end of the operation the patient was in a very weak condition.

April 19.—She has passed a good night and the pulse and temperature are normal.

A slight tendency to hernia cerebri was the only cause for anxiety in the after treatment, which ended in complete recovery, the patient leaving the hospital on May 5th.

Amongst other points of interest in the case is the fact that the antrum was only opened and not thrown into communication with the tympanum at the first operation—had this been done the ease with which the combined cavities could have been drained and effectually dressed would probably have resulted in a permanent cure. The advantages of this method are obvious, but I have recently seen the antrum merely trephined and scraped out without throwing it into conjunction with the tympanum, a procedure which I think may lead to such eventualities as here described.

I do not remember ever having seen a case of cerebral abscess which exhibited so marked a likeness to one of cerebral laceration as this case did, but the slow pulse and absence of fever with a history of ear trouble suggested the diagnosis of abscess, which was clinched by the free flow of fetid pus from the meatus.

The onset of acute symptoms during convalescence, their severity; the absence of obvious cause, the result of exploration and the traumatism which the brain tolerates with impunity seem to me points which render this case worthy of record.

101 Harley Street, W.

THE TECHNIQUE OF TYMPANIC INFLATION.*

BY EDWIN PYNCHON, M.D., CHICAGO.

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For something over a century and a half it has been known that forcing air through the Eustachian tube into the middle ear would frequently benefit an impairment of hearing. One of the earliest advocates of such practice was Valsalva, who suggested a method of auto-inflation which has ever since caused his name to be familiar to all students of medicine. The earliest approach to the Eustachian catheter was used for the injection of fluids into the Eustachian tube.

Adam Politzer, in 1862, made known to the medical world a method of great value for inflating the middle ear, which has since then been universally adopted and practiced under the name of Politzerization. He originally used a small compressed-air receiver and cut-off, but later substituted a compressible rubber hand ball of large size. Much gray matter has been expended upon consideration of the problem as to the proper size of ball and whether it had better be grasped sidewise or endwise in the hand of the operator in order to secure the most desirable results. The hand ball was later improved by the addition of a larger connecting rubber bag which, when filled with air, was to be forcibly compressed between the operator's knees, or by his elbow pressed against his side. This modification gives hint that a desire was felt for more air, or for a more continuous pressure.

The philosophy of tympanic inflation is to accomplish either one or more of the following objects:

- A. To secure ventilation of the tympanum.
- B. To remove abnormal secretions or discharges.
- C. To restore the normal air pressure in the tympanum.
- D. To correct the engorgement of vessels which is due to rarefaction.
- E. To promote the absorption of inflammatory products.
- F. To push out the abnormally retracted drum-head.
- G. To cause massage of the ossicles.

* Read before the Western Ophthalmic and Oto-Laryngologic Association, at Chicago, April 8, 1898.

While at the time of each inflation the intra-tympanic air pressure is temporarily more or less augmented, when the drum-head is intact, the ultimate result aimed at is to cause equalization of air pressure upon both sides of the drum-head. The conditions wherein tympanic inflation is indicated are various and may, in a general way, be classified as follows:

A. Conditions of acute inflammation of different degrees, ranging to otitis media acuta, wherein the exit of the middle ear is occluded through inflammatory swelling of the Eustachian tube, and the tympanum becomes filled with fluid secretions. Pain, more or less pronounced, is a prominent feature of this condition. While it is plainly apparent that in this form of trouble drainage and ventilation of the tympanum are what we principally desire, still the air douche, with intermitting impacts, as is given by Politzerization, frequently does not accomplish the result aimed at, and, if strong enough to be successful in passing through the tube, may materially augment the trouble by driving the imprisoned secretions, which may have become muco-purulent, into the antrum and mastoid cells. In any event, the sudden impact causes discomfort, and often expends its entire force upon the inflamed tube without entering the tympanum, hence the results are unsatisfactory. With such an unfavorable showing is it to be wondered at that many otologists decry such practice, and favor an early paracentesis in order to drain the tympanic cavity?

B. Chronic conditions of Eustachian tubal catarrh, whereby the proper ventilation and drainage of the tympanum are impaired, being manifested by more or less diminution of hearing, with or without accompanying subjective symptoms.

C. Chronic conditions of non-suppurative middle-ear catarrh, accompanied by more or less drum-head retraction, and an impaired ossicular mobility, varying in degree to actual sclerosis, subjective symptoms being always present.

D. Suppurative conditions of the ear, whether acute or chronic, accompanied by perforation of the membrana tympani.

Tubal catarrh and middle-ear trouble are so intimately related that one almost invariably accompanies the other. In the classification given, B covers those cases in which the tubal condition is the most prominent, and C those cases wherein it is of minor importance as compared with the middle-ear trouble.

I have long been convinced that in the use of compressed air for the purpose of producing tympanic inflation, the factor of dosage has not been given sufficient consideration. It is easily apparent

that in the use of compressed air its physical properties may be varied as follows:

1. Variations in pressure.
2. Intermitting flow with infrequent or rapid breaks.
3. Continuous flow.
4. Unmedicated air.
5. Medicated vapors or nebulæ.
6. Variations in temperature.

With such a variety of physical properties it requires no argument to prove that in application its therapy can be proportionately extended.

As these required differences of pressure and flow cannot be accurately obtained from a hand bag, its use is not recommended, except as a makeshift in bedside practice. In order to be able absolutely to control the pressure, I have designed, for office use, an auxiliary tank, as illustrated in Fig. 1, which is provided with four



Fig. 1. Auxiliary air-tank.

valves, and has a capacity of about five gallons, which gives all the volume required for any one treatment.

Beyond the auxiliary tank is another and larger tank, not shown in the cut, and containing air at a heavy pressure, of say 40 to 60 pounds. The strong pressure, from the primary tank, is secured by opening valves A and B, valves C and D being meantime closed.

As the air escapes through the cut-off the pressure is constantly registered by the meter above. By opening the valve C the auxiliary tank can be stored to any pressure required, less than the pressure of the primary tank, when the valve A is closed. If the pressure in auxiliary tank is at any time found to be too high, it can be lowered at will by opening valve D, which allows of the rapid escape of the excess pressure, the meter meantime constantly registering the pressure remaining. In this way the volume of five gallons of compressed air, at any pressure required, can at any time be commanded, and, in its use, the first impact is no stronger than is the stream following. This tank, with the fittings, was made for me by Messrs. Frank and Kratzmueller, of this city, who have also made the inflator shown in Fig. 2.

In order to medicate the escaping air, when any volatile agent is being used, an improved Buttlers inhaler can be employed, such as I described in a recent number of *THE LARYNGOSCOPE*.^{*} I have just made a further improvement in this little instrument whereby its simplicity is increased and its size decreased.[†] The illustration, Fig. 2, shows its use with a cut-off when doing middle-ear inflation

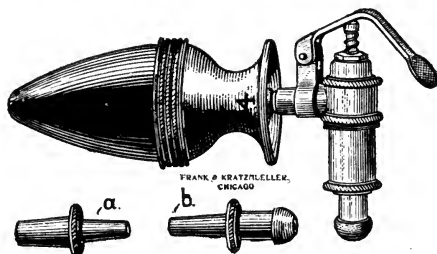


Fig. 2. Inflator-Inhaler ($\frac{3}{8}$ size.)

without a catheter, but when the catheter is to be used the small extension A is first inserted into the hole in the nasal end, and then lengthened with a very short piece of rubber tubing in order to soften the contact when pressed against the opening of the catheter after it has been properly introduced.

Prior to its use, the remedy indicated is placed upon the sponge which is inside the medicine chamber, and which is best done by dropping same through the opening in the funnel-end, thereby avoiding the trouble of unscrewing the medicine chamber. In this way the instrument, after being prepared for use with the suitable rem-

^{*}"The Evolution of the Buttlers Inhaler."—*THE LARYNGOSCOPE*, April, 1897.

[†]"Either a Pocket Inhaler or a Middle-Ear Inflator."—*New York Medical Record*, June 11, 1898.

edy, and attached to the cut-off, as shown in Fig. 2, can be allowed to hang over the operator's knee, being supported by the tube from the air-tank, and thereby leaving both hands free for the proper adjustment of both the catheter and auscultation tube.

This instrument is made of hard rubber and serves for use with any remedy which will volatilize. The operator will find it convenient to be supplied with several of these inflaters, charged with the different medicines his practice requires, in which case they can be numbered, (see Fig. 2) and thus easily told apart. One of the set should be made of metal, which can if desired, be heated, and with which can be used chloroform or ether. One of the worst defects of the old-fashioned Buttlers instrument was the small openings, hence I have had the exit holes made of liberal size so that lack of volume will not counteract the intensity, otherwise, with even sufficiently strong pressure, success might not be attained.



Fig. 3. Nebulizer with nose-piece ($\frac{1}{3}$ size); a. Extension for use with the Eustachian catheter ($\frac{2}{3}$ size).

For oily remedies and medicines which will not volatilize, I am in the habit of using a hand nebulizer (see Fig. 3) which I have previously described.*

*"A New Nebulizing Device."—*Annals of Otol., Rhinol. and Laryngol.*, May, 1897.

In office practice I use this latter device by preference in most cases wherein Politzerization is practiced, and even at times with the catheter, though, for use with the catheter, the inflator is the most convenient to use. With less than a 20-pound pressure some remedies will not nebulize nicely, hence another reason for my using the nebulizer chiefly in cases in which high pressure is permissible but, when it is elected to use the nebulizer with the catheter, it must first be attached to the cut-off and placed upon a low table within easy reach, until the catheter and auscultation tube are properly adjusted. At my office I have attached to my treatment desk a swinging shelf which is convenient for this purpose. The ordinary nasal tip is also displaced with a reduction tip, (see a. Fig. 3) the distal end of which is guarded with a small soft rubber extension, the same as in the case of the inflator.

In all chronic non-inflammatory cases, whether suppurative or not, wherein the Eustachian tubes are sufficiently patulous to allow of inflation without the use of the catheter, I believe that Politzerization is all-sufficient. It is pre-eminently the method of preference for children, and in those cases wherein an occluded nasal passage makes difficult the introduction of a catheter. The patient, if at all intelligent, can generally tell whether or not the middle ear is reached, though in case of doubt, by use of the auscultation tube, particularly with new patients, the physician can easily determine for himself. If inflation of one ear only is desired it can generally be secured by having the patient tightly occlude the opposite external auditory canal with the finger. While many cases are thus inflated with the greatest ease, others are rebellious, and tax one's patience and ingenuity. In fact, with such cases, the catheter is often resorted to when with either a higher pressure, or by trying a variety of methods, the use of the catheter would not be found necessary. In this class of cases, wherein no active inflammatory conditions are present, I have often used as high as a 60-pound pressure, when a lesser pressure was not successful, during the employment of the following given methods. A 10-pound pressure is the lowest that has proven of service, it having been with a child.

First method. Introduce nasal tip in one nostril, closing the other; next direct the patient to close the lips *tight*, to blow out the cheeks, and swallow *hard*, at which instant, by operating the cut-off, inflation can generally be accomplished if the air pressure is not too low. If not successful, I proceed to the following:

Second method. Introduce nose-piece in one nostril, closing the other, and direct patient to open the mouth *wide*, and breathe

through same, when, by operating cut-off intermittingly, inflation can be done. This will be found to be a splendid method for children.

Third method. Introduce nasal tip in one nostril, leaving opposite nostril free; next have patient open mouth *wide*, breathing through same. Then operate cut-off and, as vapor or nebulae is escaping from free nostril, close same quickly, for a second at a time, repeating several times in a minute.

Fourth method. Introduce nose-piece in one nostril, closing the other, and direct the patient to *cough hard*, or *hawk as when clearing the throat*, and simultaneously operate the cut-off.

Through the assistance of these methods I am rarely compelled to resort to the early method of having the patient swallow water.

The intermitting current, so universally employed, (which is erroneously called an air douche, as a douche implies constancy of flow) in addition to aerating the tympanum helps to cleanse that cavity when suppurative with perforation, or else gives passive motion to, or massage of the drum-head and ossicles, when no perforation exists, and thereby tends to counteract the common tendency to retraction, the successive concussions pushing the drum-head out.

Different degrees of tubal catarrh and stoppage in chronic n. s. cases require different degrees of pressure. Some stand 60 pounds with no inconvenience, and I have no doubt but that selected cases would respond agreeably to 80, or even 100 pounds, wherein inflation with a 60-pound pressure by the Politzer method cannot be secured. I have not used higher than 60 pounds, as that has been the limit of my supply. Of course, it will be understood that the strong current is used only intermittingly by the Politzer method, and that the impacts are both brief and frequently repeated.

The sudden impact of Politzerization in catarrhal conditions of the tube, acts upon the catarrhal secretions in the tube much as wind gusts act upon the falling snow, by producing drifts; hence, after the inflation, the hearing is often temporarily worse, though the eventful result is good, as, by the drifting of the secretion it is made to move, which is the first step toward its eventual escape into the post-nasal space. In this condition the continuous air current will often be found to give far better results than does the intermitting flow, though at times, the two methods can be alternated with advantage. One of the objections made against Politzerization in acute inflammatory conditions is that the tubal secretions may be blown into the tympanum. This objection will not hold good against the constant air current as, in its use, the return flow forces

the secretions from the tube into the post-nasal space. Another objection made against inflation in such conditions is due to the danger of infecting the tympanum by causing septic matter to enter that cavity. This danger can be further minimized by having the constant current consist of an antiseptic nebulæ in place of unmedicated air.

In the more acute forms the tube may become stopped up through the hyperemia produced as a primary result of the intermitting inflations, hence, in such conditions, and progressively with the increased degree of inflammation present, the force should be reduced, and the continuous flow substituted in the place of the intermitting impacts. In acute intestinal obstruction the condition yields to an enema which gives constant pressure, while one operated intermittingly aggravates the trouble.

By a continuous flow is meant a flow without breaks for 10 or 15 seconds' time. It is used only with a catheter and 20 pounds is generally the maximum pressure required, though, at the earlier treatments, a beginning should be made with a lower pressure of, say, 8 to 10 pounds. Before using the continuous current first intermit briefly, with the auscultation tube in use, so as to be sure that the catheter is properly engaging the opening of the Eustachian canal, and thereby avoid producing emphysema.

The continuous flow is indicated in conditions of tubal catarrh wherein the hearing is temporarily made worse by Politzerization, and in inflammatory conditions of the tube wherein Politzerization causes pain when the weakest air pressure is employed which is strong enough to do inflation.

For purposes of diagnosis the catheter is indispensable, though for after-treatments its use can be largely dispensed with in chronic cases, by following the Politzer method with the modifications already noted. With the occluded tube, or when the continuous flow is indicated, the catheter must be employed, and, in order to be of the greatest value, should have combined in it the properties of small size with large bore, so as to, on the one hand, be easily introduced, and, on the other, allow of the free passage of the air current. This combination is best obtained in the silver catheter.

Conclusions:

Tympanic inflation is indicated in all catarrhal conditions of the tube, with stoppage of same, whereby the ventilation and drainage of the middle-ear is impaired.

Politzerization is the preferable method:

A. In non-inflammatory conditions wherein the tube is sufficiently patent.

B. In the treatment of children.

C. When nasal deformities render the use of the catheter difficult.

The catheter is required:

A. When Politzerization is not successfully accomplished.

B. For purpose of diagnosis.

C. When important that only one ear shall be inflated.

D. When using the continuous air current.

The continuous air current is preferable:

A. When tubal catarrh is pronounced.

B. When Politzerization produces discomfort.

C. In acute inflammatory conditions.

The intermitting air current is of particular value as a means of causing passive motion whenever there is a diminished ossicular mobility, and should be as strong and rapid as can be comfortably borne by the patient.

Columbus Memorial Building.

A Neglected Case of Extensive Double Suppurative Mastoiditis, with Complications—F. A. LONG—*Western Med. Rev.*, Vol. iii, No. 9, Sept. 15, 1898.

A seven-year-old girl, of good family history, had severe scarlet fever, and purulent otitis media developed later in both ears, and when first seen had existed four months. A large area below, behind, above and in front of both ears was infiltrated and there were irregular sinuses discharging freely, the canals being filled with granulation tissue. During the operations for relief part of the bony canal, the entire mastoid and the greater portion of the petrous portion of both temporal bones came away. Recovery with total deafness resulted.

EATON.

NEW INSTRUMENTS.

AN IMPROVED TUBE FOR DRAINAGE OF THE MAXILLARY SINUS.

J. C. MULHALL, M.D., ST. LOUIS.

Several years ago I became dissatisfied with the slow progress of, and sometimes utter failure to cure simple chronic empyema of the maxillary sinus by means of the Ashley-Cooper operation, namely, opening the sinus through the alveolus and the insertion of a tube through which to cleanse, drain and medicate.

The most common cause of failure I found to be the closure of the antral end of the tube by means of unhealthy granulations. This I found to be due to two causes, namely, the small diameter of the tube—that, for instance, figured in Bosworth's book being but $\frac{1}{8}$ of an

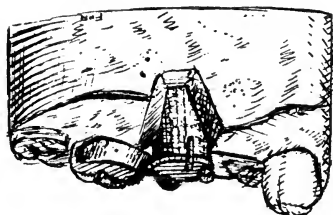


Fig. 1. The Tube in Situ.

inch in diameter, and the fact that the antral end was cut through at right angles, thus furnishing a sharp edge, which irritated the mucous membrane and produced granulations.

This fault, as will be seen by referring to figure 2, is obviated by beveling off the antral end.

The second improvement consists in the large diameter of the tube, $\frac{1}{4}$ of an inch, permitting the beveling process and allowing a much larger stream of cleansing fluid to enter and affording more room for the third improvement, a movable lid attached to the oral end of the tube, figures 3 and 4, the great advantage of which must be at once apparent, permitting no foreign body to enter the antrum, and if the tube be filled with sterilized cotton or medicated gauze, which the construction of the tube easily permits, absolutely preventing infection from the mouth.

This tube I exhibited at the meeting in May, 1898, of the American Laryngological Association, and in September of the same year a patient with the tube *in situ* at a meeting of the St. Louis Medical Society.

This patient had suffered for five years, before he came under my care, with a foul empyema of the right maxillary sinus, which had been treated through the ordinary tube, and yet after treatment carried on through my tube, an apparent cure had been accomplished in three weeks. It is now six weeks since any trace of pus has been evident in this case. As will be seen by reference to figures 1, 3 and 4, the tube is retained in place by means of a band fastened to the adjacent tooth.

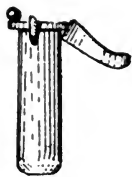


Fig. 2.



Fig. 3.



Fig. 4.

Fig. 2.—Showing the beveling of antral end.

Fig. 3.—Showing the lid partially open and the band for attachment to adjacent tooth.

Fig. 4.—Showing the lid entirely open and the band.

For the fitting of these tubes, as well as their construction, I am indebted to the skill of Dr. J. W. Wick, D.D.S., Columbia building, St. Louis.

In the *Monatsschrift für Ohrenheilkunde*, Berlin, January, 1898, appears an article, "Die Behandlung des Empyems des Oberkiefers," by Dr. W. Posthumus Meyjes, in which there is illustrated a tube bearing much similarity to mine, hence the affidavit which ends my article.

St. Louis, October 14, 1898.

I, the undersigned, J. W. Wick, D.D.S., hereby certify that at least seven (7) years ago I made for Dr. J. C. Mulhall a tube for draining the maxillary sinus, at the lower end of which tube was a lid working on a hinge, with provisions for attaching said tube to a tooth, the end of which tube penetrated the antrum, having a beveled edge.

J. W. WICK, D.D.S.

Subscribed and sworn to before me, the undersigned, a Notary Public with and for the City of St. Louis and State of Missouri, this the 14th day of October, 1898.

My commission expires January 30, 1902.

[SEAL.]

C. H. McMILLAN,
Notary Public.

HOT STERILIZED COMPRESSED AIR—AN ELECTRICAL APPARATUS FOR HEATING AND STERILIZING COMPRESSED AIR.

BY CHARLES L. ENSLEE, M.D., CHICAGO, ILL.

Surgeon to the Illinois Charitable Eye and Ear Infirmary; Professor of Otology, Rhinology and Laryngology in the Chicago Eye, Ear, Nose and Throat College.

All physicians are familiar with compressed air, also the uses to which it is adapted. They also know that cold, or draft, to the upper air passages does harm; the delicate mucous membrane is easily chilled; the sensitive parts become swollen and congested, resulting

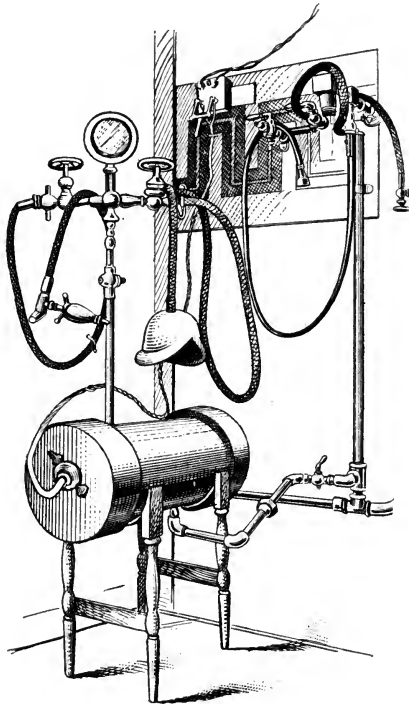


Figure 1.

in inflammation. The applications of cold medicated solutions do very little good; in many cases they are harmful. The effect of moderate heat is always soothing and healing. The principal use

for which the apparatus (Fig. 1) was designed lies in the treatment of otitis media chronica. After many experiments with cold inflations in all forms, and no satisfactory results, I conceived the idea of inventing something by which hot air, in place of cold, could be conveyed to the tympanum.

Heat stimulates the vessels, restores normal circulation, promotes absorption of medicated oils, making them more effective, relaxes the ossicular ligaments and muscular fibers of the membrana tympani; thereby restoring them more nearly to their normal condition. It also sterilizes the air and destroys microorganisms.

Tinnitus aurium is always increased by cold. Heat softens bands of adhesions, and any ankylosis that may exist, so that hot air forced through the Eustachian canal into the middle ear gradually restores the elasticity and removes the pressure from the fenestra ovalis which frequently causes the tinnitus. I have treated over five hundred cases with gratifying results. The air can be heated to any desired degree, and the force regulated with Dr. S. S. Bishop's air meter or regulator. From the receiver the hot, sterilized air is filtered and conveyed through a rubber tube to the patient. It is designed to take the place of cold air, so long in use. The apparatus can be used in connection with any oil vaporizer in the treatment of catarrh and bronchial diseases. I am confident of wonderful results from this new form of compressed air in the treatment of pulmonary phthisis.

70 State Street.

CORRESPONDENCE.

PHILADELPHIA, Sept. 20th, 1898.

To the Editors of the Laryngoscope:

There appeared in the September number of THE LARYNGOSCOPE a letter from Dr. E. B. Gleason, ostensibly called forth by some recent remarks made in the section of Rhinology and Laryngology of the New York Academy of Medicine in regard to a certain method of correcting deviation of the septum. As that letter makes some statements which, to say the least, are incorrect and are calculated to confuse the matter, I feel compelled to say something on the subject.

In the first place, I wish to make clear that I never have claimed, and do not wish to claim, Dr. Gleason's operation, as a whole, as mine. He is entitled to any credit he may get for those modifications in which it differs from mine, such as extending ends of the incision upward in the shape of a V, and which may make it superior or inferior to mine, according to individual opinion. I claim, however, that Gleason's operation rests on the essential feature which was devised and first described by myself; that is, making the lower part of the upper fragment hook onto the opposite side of the base of the septum, in order to give it a base of support and prevent recurrence of the deviation. Also a point, often important, in accomplishing this, the making of a beveled incision—which is also done by Gleason's saw-cut.

In stating that my operation resembles that of Dr. Asch, Gleason shows either a total ignorance of the latter or intentionally makes a false statement, as the two operations are as unlike one-another as two septum operations can well be.

In the statement that I use a pin to overcome the resiliency of the cartilage, Dr. Gleason has confused a description of a different operation, which occurs in the earlier part of the article in which I described the operation now under consideration. In the operation that we are now considering, no pin or other support is usually necessary, which is one of the points of the operation, as the base holds the upper part in place. The pin is used by me when, there

being also a marked vertical line of deviation, which is "cut out" by removing a wedge of cartilage, which includes the thickened angle and reaches to the opposite side (this procedure is Ingal's method,) to hold the anterior piece of cartilage in line until healing takes place.

In February or March, 1896, my operation was definitely brought to the notice of Dr. Gleason at a meeting of the section of Otology and Laryngology of the College of Physicians of Philadelphia, although I had been teaching it to my class and assistants at the Polyclinic for at least a year previous. In May, 1896, I again described the operation before the American Laryngological Association, there being present eminent laryngologists from all over the country, but in the lengthy discussion of the subject no one claimed to have done or to have read of this operation. The paper was published October 3d, 1896.

Dr. Gleason first described his operation at the section of Otology and Laryngology of the College of Physicians, October 7th, 1896. In the discussion all, who were familiar with my operation, gave it as their opinion that in its essential features it was the same as mine. Before Dr. Gleason published his paper (it was already in type) I called his attention to these facts, which he acknowledged, and proposed to add a note to his paper, giving me the proper credit. The following is the note which he published with his paper in *THE LARYNGOSCOPE*, and which I accepted as sufficient for the time, although not the entire truth:

"After the above was in type, the attention of the writer was called to a paper by Dr. Arthur W. Watson, of Philadelphia, published in the *New York Medical Journal*, October 3, 1896, in which is described a similar operation for deviation of the septum.

"Watson makes a beveled incision along the crest of horizontal deviations with a knife, cuts out any vertical deviation that may be present, and then presses over toward the wider nasal chamber the upper portion of the septum, until its edge is hooked over the part of the septum below the cut and retained in position, thus using up any vertical redundancy of the septum. To Watson must be ascribed priority in the practical application of the idea of pushing the upper portion of the cut septum over the lower, and thus allowing, at least in a vertical direction, for the redundancy of the septum, which has been the great cause of failure in operations previously devised."

In subsequent papers Dr. Gleason has entirely ignored the foregoing.

I give below the diagrams which accompanied my paper and Dr. Gleason's first paper, as they will show at a glance the point of resemblance between these operations:

Diagrams accompanying Dr. Watson's paper; read May 14th and published October 3d, 1896.

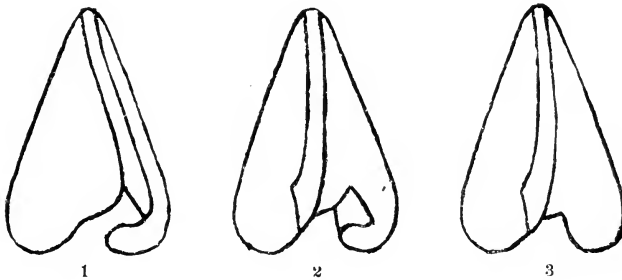


Diagram showing. 1. Deviated septum with line of incision. 2. Septum replaced, with spur standing. 3. Projecting spur removed.

Diagrams accompanying Dr. Gleason's paper; read October 7th, published November, 1896.

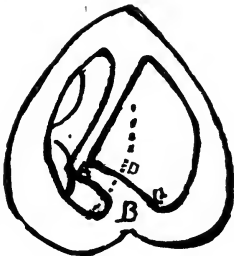


FIGURE 2.

Vertical, transverse section through the anterior part of the nose; angular deviation of the septum without hypertrophy of the tissues at the angle of the deviation. The dotted line indicates the direction of the saw-cut for forming the tongue-shaped flap covering the button hole in the septum. AB and DC, portions of the septum to be denuded.

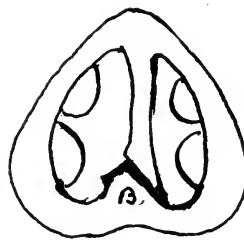


FIGURE 3.

Vertical, transverse section through the anterior portion of the nose, showing position of the septum after the tongue-shaped flap has been thrust through the button hole in the septum. After healing has occurred, the parts at B are sometimes abnormally thick; but redundant tissue can readily be removed with the saw.

I have endeavored to state these facts as clearly as possible in order that my position may be thoroughly understood, as I do not intend to continue the discussion further.

Yours truly,

ARTHUR W. WATSON.

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EDITORIAL.

ANNOUNCEMENT.

February 10th and 11th are the dates selected for the fourth annual
meeting of the Western Ophthalmologic and Oto-Laryngologic
Association. The committee of arrangements has been very con-
siderate in fixing these dates, as it will allow the members attending
the convention an excellent opportunity to participate in the enjoy-
ments of the Mardi Gras festivities. Thus the dates of the meeting
have been selected just prior to the festival period, and the members
of the active Western Ophthalmologic and Oto-Laryngologic Associa-
tion will be able to combine business with pleasure.

Applications for membership to this society will be received by
THE LARYNGOSCOPE.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Nasal Catarrh—ED. PUNCTION—*Georgia Journal of Med. et Surgery*, September, 1898.

The author arrives at the following conclusions:

1. That impairment of ventilation and drainage of the nasal fossæ are the most important elements in this affection.
2. That the touching of opposing surfaces is one of the most important pathological factors.
3. That the line of treatment is largely surgical and the chief object aimed at is to cause the defective nose to conform as nearly as possible to the shape of the ideal standard. LEDERMAN.

Antiseptic Treatment of Nasal Catarrh—R. C. COTTINGHAM—*Alkaloidal Clinic*, June, 1898.

The author assumes that all cases of catarrh are produced by some vegetable parasite, and that the mucous membrane has been inflamed and is diseased by catarrhal bacteria.

Great stress is laid on cleanliness and disinfection. He has devised an improved nasal irrigator, in which he uses an alkaline antiseptic solution. The solution is made from tablets containing sodium borate, acid boracic, sodium chloride, aa. gr. v; oil of eucalyptus, m. $\frac{1}{25}$; oil of gaultheria, m. $\frac{1}{20}$; thymol, gr. $\frac{1}{20}$; oil of tar, m. $\frac{1}{2}$. Dissolve in three or four ounces of water. Use as often as required, lengthening the time as the case improves.

After cleansing he prescribes an ointment of white petroleum, acid tannic, acid salicylic, oil of eucalyptus and oil of gaultheria.

He directs the patient to use a portion, the size of a pea, in each nostril. Glacial acetic acid is used to reduce hypertrophies.

Five cases, including the different varieties of catarrh, are cited to illustrate the treatment.

Out of 2,000 cases treated, a cure is claimed in over 98 per cent.

ANDREWS. (BISHOP.)

A Case of Caseous Coryza—LACOEARRET—*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, May 14, 1898.

This case was found to be caused by bilateral maxillary sinusitis. The author believes the caseous formation to be due to the evaporation of the liquid portion of the fetid discharge.

SCHEPPEGRELL.

A Case of Blue Nasal Secretion—M. MOLINIÉ, Marseilles—*The Med. Bulletin*, September, 1898.

The history of this case was presented before the French Society of Otology and Laryngology at the annual congress. It occurred in a young woman, twenty-five years of age, who had a very severe attack of the grippe, which was accompanied by intestinal, gastric and nervous symptoms. At first the nasal discharge was colorless, but several times during the day the mucus was streaked by lines of blue as deep as methylene blue. The secretion came from the right middle meatus.

Bacteriological examination showed short, squat bacillus with rounded extremities, colored by methylene violet and gentian violet and retaining its color under the gram reagent. It is supposed that the case was one of blue chromo-rhinorrhœa, due to the development of a pyogenic colony in the frontal sinus of the right side.

LEDERMAN.

Nasal Diphtheria Complicated by Broncho-Pneumonia—S. M.

HAMILL—*Phil. Med. Journ.*, June 18, 1898.

At the meeting of the Section on General Medicine of the College of Physicians of Philadelphia, the author reported the case of a girl of seven years who appeared to have suffered for five days from ordinary coryza. A culture from the secretions, however, revealed the presence of the diphtheria bacillus in considerable number. The interesting feature of the case was the location of the diphtheritic process, the mild general symptoms resulting therefrom, the broncho-pneumonia which was migratory, a concurrent attack of bilateral suppurative inflammation of the middle ear, severe gastro-intestinal manifestations, and the ultimate recovery of the patient.

In the discussion, Dr. H. M. Fussell referred to a somewhat similar case that had been under his observation, and mentioned a considerable number of errors, of which he was personally cognizant, in regard to the bacteriologic diagnosis of diphtheria by those supposedly competent.

SCHEPPEGRELL.

Rhinolith or Nasal Calculus—W. H. POOLE—*New York Med. Jour.*, July 9, 1898.

The patient applied for profuse nasal discharge, offensive in character, which had existed for two or three years. There was headache and lachrymation of the left eye. The rhinolith was accidentally discovered after the removal of hypertrophied tissue of the lower turbinal.

SCHEPPEGRELL.

A Case of Rhinolith Developing from a Cherry Stone—RAOULT—*Revue Int. de Rhin., etc.*, June, 1898.

The rhinolith was broken into pieces and the fragments removed with forceps. Circumstances indicated that it had been in the nostril for twenty years.

SCHEPPEGRELL.

Rhinoliths, Four New Cases Due to Cherry Stones—GARREL—

Ann. des Mal. de l'Or., etc., June, 1898.

It is almost always a cherry stone which gives rise to these formations. The foreign body becomes lodged in the nostril either by a false movement in deglutition, by which it enters the nose through the nasopharynx, or, as in children, the stone is voluntarily placed in the nasal passages. The rhinolith may be either withdrawn anteriorly or pushed into the nasopharynx. In some cases a kind of lithotrite is needed.

[In France the cherry stone seems to be the favorite object with children for insertion into the nasal cavities. In New Orleans, however, the ladies' shoe-button appears to be in the majority. In the private practice of the abstractor and in his clinic at the Eye, Ear, Nose and Throat Hospital, 80 per cent. of the foreign bodies extracted from the nostrils were shoe-buttons. The wood and metal, however, of which these buttons are made do not seem to favor the formation of rhinoliths, as there was not a case in which even an incrustation on these was seen. In one case of rhinolith described by the abstractor (*Journ. Am. Med. Ass'n.*, May 2, 1896) the nucleus consisted of a small clot of blood, as shown in a spectroscopic examination.—W. S.]

SCHEPPEGRELL.

Screw-Worms in the Nasal Cavity—R. B. LITTLE—Louisviell

Med. Monthly, July, 1898.

Two hundred and seventy-five screw-worms were removed from the nasal cavity in three sittings. Chloroform inhalations were used.

SCHEPPEGRELL.

Nasal Obstruction—MENDEL—Revue Int. de Rhin., etc., June, 1898.

The pathologic consequences of nasal obstruction are (1), insufficient oxygenation of the blood (2), ear affections due to defective ventilation of the rhinopharynx (3), vocal affections, laryngitis, asthma and emphysema (4), deformities and vertical elongations of the face (5), eye affections and visceral disturbances (dyspepsia, palpitation, etc.) Treatment consists in restoring nasal respiration.

SCHEPPEGRELL.

Some Remarks on Nasal Surgery—R. MCKINNEY—Memphis

Med. Monthly, July, 1898.

A review of the various methods in vogue, with preference for the Asch operation for nasal deviations.

SCHEPPEGRELL.

A Simple Method of Resecting the Nasal Septum without Perforation—ESCAT—Gazette Hebdomadaire de Médecine et de Chir., May 26, 1898.

After cocainization, 45 minims of boiled water are injected by means of a hypodermic syringe into the mucous membrane of the concave side, thus stripping the mucous membrane from the cartilage. The convex side is then resected with a bistoury in a vertical direction. After cicatrization, the closure is insured by the approximation of the uninjured mucous membrane to the cicatricial membrane.

SCHEPPEGRELL.

Rare Fracture of the Nose; Necrosis and Elimination of the Inferior Turbinal—GARREL—*Ann. des Mal de l'Or., etc.*, June, 1898.

A child of four years had received, two years previous, a blow on the left side of the nose. There was severe pain, but little epistaxis or swelling after the accident.

Some months afterwards there developed a purulent fetid discharge, which was treated as a common cold. The mother then perceived in the right nostril a kind of foreign body, which a physician extracted with forceps, and which proved to be the necrosed inferior turbinal almost entire. The discharge and ozena disappeared at once.

[This is certainly a remarkable case if due to traumatism. Perhaps, however, the injury was simply a coincidence and the real cause hereditary syphilis.—W. S.]

SCHEPPEGRELL.

Treatment of Chronic Naso-pharyngitis—L. S. SOMMERS—*Memphis Lancet*, July, 1898.

A review of the usual form of treatment.

SCHEPPEGRELL.

A Form of External Rhinitis due to the Klebs-Loeffler Bacillus appearing in Children Convalescent from Scarlet Fever¹—C. TODD—*Lancet*, May 28, 1898.

(The author applies the term "external" to what is more generally known as "anterior" or "vestibular" rhinitis.—*Ed.*)

Children in hospital during their convalescence from scarlet fever are peculiarly liable to a certain form of external rhinitis.

Clinical History.—The first sign of anything abnormal is a slight redness of the posterior margin of one or both nostrils, usually beginning at the inner or outer angle and at the muco-cutaneous junction. The redness becomes more intense, and ultimately a moist granular-looking raw surface results; this surface bleeds easily, and is often covered by a crust which may almost, or completely, block up the nostrils. This is more commonly the case in younger children who scratch their nostrils and so cause bleeding. There is never any formation of membrane and the process does not appear to extend backwards into the nasal cavity, but in many cases it spreads down to the upper lip in the form of an eczematous area, apparently caused by the infective discharge. This discharge is usually slight and not uncommonly absent. The nostrils remain in this granular condition for a variable time—from one to four or five weeks—and then gradually resume their normal condition. During the course

¹ This paper formed part of a Thesis for the M.D. Degree, read at Cambridge in January, 1898.

of this rhinitis there is a tendency to the formation of pustules on parts of the body exposed to contact with the discharge. In many cases the face has a "spotty" appearance, due to the presence of several minute pustules, and at times larger pustules are seen, more especially on the hands, and apparently originating in some scratch or other slight lesion or at the edges of the nails. The rhinitis does not appear to have any effect upon the general health, and is unaccompanied by any rise of temperature. There is no albuminuria or marked glandular swelling coincident with the rhinitis; but as the children are convalescent from scarlet fever the submaxillary glands in many cases are enlarged, and it is difficult to say how much may be due to the rhinitis. In no case have any paralytic symptoms been observed in the fifty-one cases recorded, though these have been carefully looked for. This form of rhinitis appears to be contagious, and spreads, though not rapidly, among young children when introduced into a convalescent ward where the children are playing together and so coming into close contact.

Children are most commonly affected about the age of three or four. No case occurred after the age of twelve years. Fifty-one cases occurred amongst 365 children affected with scarlatina—almost 15 per cent; it is, therefore, not a rare occurrence. The bacillus isolated was found to be morphologically indistinguishable from the Klebs-Loeffler bacillus of diphtheria. The cultures were virulent for guinea-pigs. The children affected with rhinitis had not been exposed to any extent to infection from cases of diphtheria while in hospital. On the other hand, although there occurred fifty-one cases of rhinitis, accompanied by a bacillus indistinguishable from the true diphtheria bacillus, only one case of diphtheria occurred.

Recapitulation and Remarks.—(1) Children convalescent from scarlet fever in hospital are very liable to a certain form of external rhinitis, often accompanied by the formation of secondary pustules on various parts of the body. (2) This rhinitis, though not membranous, is associated with the presence of the Klebs-Loeffler bacillus in the nostrils, this organism being absent from the fauces. (3) It is contagious as such, but has not been observed to give rise to faucial or laryngeal diphtheria. (4) It is unaccompanied by rise of temperature, albuminuria or marked glandular enlargement. (5) It appears to be limited to children under thirteen years of age, and has been most frequently observed at the ages of three and four years. The fact that the bacillus, though present in the nostrils in large numbers and causing a local lesion, does not give rise to any constitutional symptoms, or to faucial or laryngeal diphtheria, sug-

gests that its virulence is modified to a remarkable extent. It is virulent to guinea-pigs, when inoculated subcutaneously; but this is no criterion of its virulence to the human being, as was shown by Dr. Klein in the case of diphtheria bacilli taken from the fauces of patients suffering from diphtheria. Why the bacillus limits itself to the nostrils and does not invade the tonsils is very hard to see, as the tonsils must be liable to repeated infection, both from the nasal passages direct and through the mouth. It appears not improbable that, under certain conditions, this feebly virulent bacillus may acquire a higher degree of virulence; and this point possesses a peculiar interest in view of the large number of cases of diphtheria met with after scarlet fever.

Remarks by Prof. Kanthack.—As Dr. Todd read the above paper during an Act for the M.D. Degree, I allow myself the privilege of adding a few critical remarks which, in substance, were offered at the time, and which are intended to fill some gaps in a valuable piece of work. It is important in connection with Dr. Todd's paper to allude to the observations of Dr. Cautley,² who examined the nasal secretion of persons suffering from acute febrile nasal and naso-pharyngeal catarrh and found the bacillus coryzæ segmentosus, an organism which, morphologically and on artificial cultivation, is certainly allied to the diphtheria bacillus. Unfortunately, Dr. Cautley did not perform animal experiments or attempt any chemical tests. Certainly his organism was not a "Hofman's bacillus," nor was it a typical diphtheria bacillus. Next, mention must be made of the numerous cases of fibrinous rhinitis in which diphtheria bacilli, or organisms indistinguishable from diphtheria bacilli, have been found. It must suffice to allude to the published works of Abbott,³ Freeman,⁴ Czernetschka,⁵ Concetti,⁶ Stamm,⁷ Meyer,⁸ Gerber and Podack,⁹ and Pluder.¹⁰ Rhinitis fibrinosa is a chronic affection, which, as a rule, remains local, and does not give rise to a clinically recognized diphtheria; but the bacillus occurring in this lesion is now generally acknowledged to be the Klebs-Loeffler bacillus. Further, bacilli resembling diphtheria bacilli, but not Hofman's bacilli, are found with

² Further Report by Dr. Cautley on the Etiology of Influenza Cold. Twenty-fourth Annual Report of the Local Government Board, 1894-95. Supplement containing the Report of the Medical Officer for 1894-95, p. 455.

³ *Med. News*, May 13, 1893.

⁴ *Med. Rec.*, New York, Vol. i, p. 618.

⁵ *Prager Med. Woch.*, 1894, Nos. 38 and 39.

⁶ *Arch. Ital. di Laring.*, xii, 1892, fasc. 2.

⁷ *Arch. fuer Kinderheilk.*, 1892, Band xiv, p. 157.

⁸ *Archiv fuer Laryng. und Rhinol.*, 1896, Band iv, 1896, p. 249.

⁹ *Deutsches Archiv fuer Klin. Med.*, 1895, No. 54, p. 262.

¹⁰ *Deutsche Med. Woch.*, 1896, Nos. 44 and 46.

great frequency in many forms of ulceration of the skin, gangrene, stomatitis, cancrum oris and noma. Together with Mr. J. W. W. Stephens, I have examined systematically a number of such cases, and have separated in all cases of cancrum oris and noma an organism so closely resembling Loeffler's bacillus that, although in most cases it was not virulent, I have not hesitated to place it provisionally with the diphtheria bacillus. Recently Freymuth and Petruschky¹¹ have reported that, in cases of noma, they have obtained the diphtheria bacillus. I hope soon to find the necessary leisure to publish my own researches, but wish here to point out that, in many forms of chronic and impetiginous ulceration of the skin, it is easy to find bacilli resembling the diphtheria bacillus in all respects excepting virulence—so closely that I see no reason to separate them as pseudo forms, all the more since they all differ strikingly from Hofman's bacillus, and since competent observers now begin to recognize that acid formation, metachromatism, Neisser's staining reaction, appearances on gelatine and agar-agar and virulence, are no more certain criteria for the diphtheria bacillus than appearances on gelatine, indol reaction, and virulence are certain criteria for the cholera vibrio. I have maintained for some time that bacilli actually, and not merely distantly, resembling the diphtheria bacillus, are found frequently in the throat and elsewhere in chronic ulceration, impetigo, cancrum oris, etc., and that in many cases, by continued growth, these bacilli may be so altered as to resemble the diphtheria bacillus still more closely, and even to acquire pathogenic properties. The diphtheria bacillus is, in my opinion, widely distributed—frequently in modified forms, it is true—but still in such forms which, except by artificial and imaginary criteria, such as would not be recognized in the case of other microorganisms, cannot be separated from the Klebs-Loeffler bacillus, which, even under the best conditions, is a highly polymorphic organism. I, therefore, consider the work of Dr. Todd of all the greater importance, since it is a further contribution to the view, which is gradually gaining ground, that the diphtheria bacillus is found in many lesions which are not "diphtheria,"¹² and that the various tests, generally enumerated, do not suffice to distinguish the various modifications from the "text-book variety" of the Klebs-Loeffler bacillus. It is unnecessary to draw attention to the bearing which such a view has upon the etiology and pathology of diphtheria.—

STCLAIR THOMSON.

¹¹ Ibid, 1898, p. 232.

¹² See also Schütz: *Berliner Klin. Woch.*, 1898, p. 297, etc.

II. MOUTH AND NASO-PHARYNX.

Cysts and Pseudo Cysts of the Nasal Fossæ—BRINDELL—*Revue Hebdomadaire de Laryngologie, etc.*, May, 1898.

The author applies the term "cyst" to all tumors having a closed cavity containing solid, liquid or gaseous contents, the cyst having a wall, which is absent in the pseudo cyst. Although they are benign, radical removal is required, puncture and modifying injections alone being insufficient.

SCHEPPEGRELL.

Voluminous Polypus of the Size of a Nut in the Nasal Fossæ—

DESCHAMPS—*Revue Internationale de Laryngologie, etc.*, June, 1898.

The polypus completely filled the naso-pharynx with prolongations into the right nostril. It was removed with the snare.

SCHEPPEGRELL.

When and How to Remove Tonsils and Adenoids Accompanying Acute Otitis Media—HESSLER, Halle—*Monatsschrift für Ohrenheilkunde*, February, 1898.

The author advocates operation immediately after the acute symptoms have reached their climax, and while the inflammatory condition still exists in the ear.

In mucous catarrh of the middle ear he waits until the inflammatory reaction and exudation has subsided, when the bulging of the membrana tympani has diminished and when the crackling sounds have moderated. In muco-purulent catarrh he proceeds more slowly. In pure acute and sub-acute suppurative otitis, he performs free paracentesis to admit of free drainage, and when the otorrhea and hyperemia have diminished, he proceeds with the removal of tonsils and adenoids.

The early operation of the tonsils is urged as a means of curtailing the aural trouble.

Hessler operates on adenoids and tonsils without an anæsthetic, using a modification of Schütz's pharynx tonsillotome.

GOLDSTEIN.

Phlegmonous Inflammation of the Lingual Tonsil—GROUZILLAC—*Revue Internationale de Rhinologie, etc.*, June, 1898.

A patient of seventy-seven years presented violent symptoms. A free incision was made, which liberated considerable pus and was followed by a slow amelioration of the symptoms.

SCHEPPEGRELL.

Ulcerative Membranous Angina due to a Fusiform Bacillus and Spirilli—LEMOINE—*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, May 28, 1898.

Five cases are described in which ulceration developed under the false membrane. The fusiform bacillus and spirilli were found in the sanious exudate. Three of the five cases took a chronic course, one case requiring sixty-six days for recovery.

SCHEPPEGRELL.

Chancere of the Tonsil—A. E. BRADLEY—*National Medical Review*, June, 1898.

When first seen the tonsil was red, swollen, indurated and covered with a granular deposit, not unlike diphtheritic membrane.

The diagnosis was not positive until the secondary symptoms appeared. The disease ran the usual course and received routine treatment. The woman, who had become pregnant between the time of infection and the appearance of the chancre, was delivered at full term of a syphilitic child, which lived but a few days.

The source of infection was believed to be the kiss of a woman suffering from syphilis. ANDREWS. (BISHOP.)

Extirpation of Soft Palate and Tonsil for Carcinoma—E. H. LEE—*The Times and Register*, Sept. 10, 1898.

The disease had existed nine months. No cause could be found except smoking. Dysphagia was the principal subjective symptom. The tumor involved the whole soft palate and left tonsil and was an inch in diameter. The submaxillary gland was enlarged. Microscopical examination established the diagnosis.

The first step in the operation was the ligation of the external carotid artery. Tracheotomy (inferior) was then performed, and the larynx packed with gauze. Temporary resection of the symphysis of the inferior maxillary bone, and drawing the tongue into the space to give the operator ample room for work was the next step. After removal the edges of the wound were sutured to the mucous membrane of the hard palate. Six months later no sign of a return of the tumor was seen. LEDERMAN.

Mouth-Breathing in Children, Particularly as a Result of Adenoids—ARTHUR G. HOBBS—*Atlanta Med. and Surg. Jour.*, June, 1898.

A complete extirpation of the adenoids is desirable, though not necessary. The remaining part of the growth atrophies when the greater part has been removed and nasal breathing has been established. Constitutional treatment is essential in many cases after the adenoids have been removed. SCHEPPEGRELL.

The Mouth In Glass-Blowers—LIARAS—*Revue Int. de Rhin., etc.*, June, 1898.

An interesting account of the effects of the violent breathing efforts made by glass-blowers. These effects seem to disappear spontaneously when the subjects change their occupation. SCHEPPEGRELL.

Mycosis Pharyngis Leptothricia—MAX TOEPLITZ—*New York Med. Journ.*, June 25, 1898.

Three cases are reported. Curettement and the application of the electro-cautery are recommended in the treatment. SCHEPPEGRELL.

The Value of the Buccal Eruption of Measles (Koplik) for Early Diagnosis—E. LIBMAN—*Phil. Med. Journal*, June 18, 1898.

The author has found the buccal eruption of measles, as described by Koplik, in each of fifty cases. Some of these were particularly interesting, because the eruption appeared some time before the typical rash, and made it possible to isolate the cases before the rash appeared; thus after a case had been admitted to the children's ward accidentally, the other children were systematically examined every day, and in ten cases the buccal eruption was found from one to two days before the rash appeared, and no case developed without presenting it.

SCHEPPEGRELL.

Elephantiasis of the Tongue—MARCHAL—*The Med. Bulletin*, September, 1898.

This rather peculiar disease was observed in a female child, thirteen months old. The tongue protruded from the mouth, and gave the face a very repulsive appearance. Saliva flowed freely from the open mouth. Nourishment was taken with difficulty. The surface of the tongue was rough and studded with hypertrophied papillæ. Turgid, varicose veins were seen on the lower surface. Feeding was accomplished with a spoon. A considerable abdominal hernia was also present.

The author performed a conoid amputation, diminishing the size of the tongue one-half. Several weeks later the child could close the mouth. Her intelligence has rapidly developed and other functions in a normal manner. Microscopical examination revealed a true elephantiasis.

LEDERMAN.

A Case of Chronic Abscess of the Tongue—By C. W. RICHARDSON, Washington, D. C.—*Jour. Am. Med. Assoc.*, Feb. 26, 1898.

The patient, a woman of 18 years, of a tubercular family on the father's side, had a painless swelling on the dorsum of the tongue since early childhood, causing no inconvenience. Was suddenly taken with pain in throat and ear, with slight rise of temperature. Inspection of parts was negative. Incision in swelling on the tongue gave exit to several drachms of offensive pus and immediate relief to patient.

STEIN. (BISHOP.)

Diagnosis and Cure of a Lingual Tumor by Intramuscular Injections of Calomel—P. D. CRISTINI—*Gazette Medica Lombarda*, May 23, 1898.

The author records the case of a woman of fifty-four, who came to the Civil Hospital of Bergamo with a lingual tumor, which was diagnosticated as cancer. There was a family history of cancer on the mother's side, and a brother had a tumor removed. The patient's tumor was about the size of a nut, hard, ulcerated at one

point, and slightly painful to the touch. She was kept under observation, and a grain and a half of calomel was injected intramuscularly after the method of Scarenzio. In three days there was notable amelioration of the symptoms and total dispersion in five days.

SCHEPPEGRELL.

Diagnostic Characteristics of Headaches According to Their Origin, with Special Reference to Headaches Dependent Upon Affections of the Senses—HENRY GRADLE—*Phil. Med. Journal*, June 25, 1898.

After a description of the various affections of the eye, which may bear etiologic relationship to headaches, the author states that headache may be due to suppurative inflammation of the sinuses or nasal stenosis, and that inflammatory conditions of the pharyngeal tonsil may also be a source of continuous headache in both adults and children. The teeth should also be carefully examined.

SCHEPPEGRELL.

III. ACCESSORY SINUSES.

A Simple Method of Plugging, and Simultaneously Securing an Artificial Opening in the Maxillary Antrum—HERZFELD, Berlin—*Monatschr. f. Ohrenh.*, January, 1898.

The author recommends a plug of pure rubber to be inserted after puncture or drill opening into the antrum of Highmore.

The plugs are of solid, pure gum rubber, somewhat conical in shape; to the base of the cone a flange of thin sheet rubber is attached, which prevents the plug from slipping into the antral cavity and by which it can be adapted and fastened to the adjoining teeth. The plugs are made in sizes ranging from two to eight millimeters in diameter to correspond with the size of the opening made. They are introduced immediately after operation, and with little practice can be removed and reintroduced by the patient. A similar plug is used for the opening from the canine fossa, and the part between the cheek and the gum is hollow.

The author claims for this simple apparatus that it is tolerated by the patient with greater comfort than those of metal or vulcanite, is easily handled by the patient, simple in construction and inexpensive.

GOLDSTEIN.

A Case of Periostitis of the Floor of the Orbit Due to Right Acute Maxillary Sinusitis—DESCHAMPS—*Revue Int. de Rhin., etc.*, June, 1898.

The severe orbital symptoms from which the patient suffered disappeared on opening and draining the maxillary sinus.

SCHEPPEGRELL.

The Treatment of Empyema of the Maxillary Antrum—W. P.MEYJES, Amsterdam—*Monatschr. f. Ohrenh.*, January, 1898.

The author describes a tube, constructed of gold, or of gold-plated silver, inserted for permanent drainage and irrigation of the antrum of Highmore after operative puncture or drill.

This tube is constructed with a flange, fixed at a right angle to its lower end, to prevent it from slipping into the cavity. A silk ligature is passed through small eyelets in the flange and fastened to the adjoining tooth to hold the tube in place.

To the under surface of the flange is fitted a hinged lid, clapping with a small spring tightly over the tube. The inner surface of the tube carries a small round button of the same diameter as the lumen of the tube, and when the lid is in place the button fits as a plug in the tube, holding the lid firmly in place. The lid is leaf-shaped, projecting slightly beyond the edge of the flange so that it may be easily opened by the patient with the finger nail.

An angular irrigating canula completes the apparatus.

GOLDSTEIN.

The Treatment of Empyema of the Frontal Sinus—By J. H.BRYAN, Washington, D. C.—*Jour. of the Am. Med. Assoc.*, Feb. 26, 1898.

The author reviews the different methods of operation in this affection. He is of the opinion that the external operation is the one to be followed, if possible.

STEIN. (BISHOP.)

IV. LARYNX AND TRACHEA.

Treatment of Different Forms of Aphonia Due to LaryngealLesions—COLLINS—*Phila. Polyclinic*, Sept. 10, 1898.

In a female patient who had suddenly become hoarse on account of a return of some papillomatous tissue on the middle of the right vocal cord, and beneath the cord, also situated over the left arytenoid cartilage, local palliative treatment was not of much service. In this case the internal administration of small doses of magnesium sulfata (10 grains three times daily) acted remarkably well. All other treatment was suspended, and the growths disappeared in a few months. Slight thickenings of the mucous membrane could only be seen after careful examination.

Case II.—A young girl, fifteen years of age, gave a history of gradual hoarseness, after singing or talking loudly. Chronic laryngitis was diagnosed, but while in attendance at the clinic she suddenly lost her voice. On examination a slight effusion of blood was observed upon the surface of the cords. Her throat was sprayed twice weekly with a solution of phenazone (20 grains to the ounce). Internally, one forty-eighth of a grain of mercuric chlorid was given as a tonic, three times daily. Later, potassium iodid (5 grains t. i. d.) to promote absorption of the hemorrhage. In two weeks the effusion had practically disappeared and the voice was much improved.

LEDERMAN.

Chronic Stenosis of the Larynx with Illustrative Cases—By

WILLIAM E. JONES, Camden, N. J.—*Jour. Am. Med. Assoc.*,
March 12, 1898.

The first case was one due to a prolapsed ventricle, and was treated and relieved by the galvano-cautery. The cause of the second case was doubtful, but probably it was due to a localized chondritis. Tracheotomy relieved and brought about a subsidence of the trouble. In the third case the condition was undoubtedly one of syphilis of the larynx. The internal administration of potassium iodid for four months after a tracheotomy brought about a recovery. Case four was one of carcinoma, in which tracheotomy was performed but a laryngectomy was refused. In case five the stenosis was the result following an attempt at suicide by cutting the throat.

STEIN. (BISHOP.)

Benign Incurable Paralysis of the Recurrent Laryngeal Nerve,

Following Measles—LERMOYEZ—*Revue Int. de Rhin., etc.*,
June, 1898.

A woman of thirty years presented the signs of vocal paralysis, which had existed for twenty-seven years and had followed an attack of measles. The laryngoscope showed the left vocal cord motionless and in the cadaveric position; the right was freely movable and passed over the median line, but did not come in contact with the paralyzed cord.

The patient did not seem to suffer much from the paralysis, but whenever she contracted cold developed a violent cough. A diagnosis was made of the destruction of the left recurrent laryngeal nerve, due to an old tracheo-bronchial adenitis. SCHEPPEGRELL.

Paralysis of the Left Recurrent Laryngeal Nerve in Mitral Stenosis—OSLER—*Am. Med. Surg. Bulletin*, Sept. 25, 1898.

Two cases were seen by the author, and in both instances were females. The well-marked features of mitral stenosis were present; symptoms of cardiac failure and edema, and complete recurrent laryngeal paralysis. There was nothing to indicate pressure in the thorax. Though the patients improved under treatment the laryngeal paralysis persisted. Two cases described by Ortner, of Vienna, in which this pressure was due to a distended left auricle, are cited by the author. In all these cases the pericardium was adherent. A diagnosis of aneurism was made in one of the last two cases, but the autopsy showed the left auricle enormously distended and enlarged.

LEDERMAN.

A Case of Epithelioma of the Larynx; Laryngectomy and Partial Pharyngectomy; Death on the Eleventh Day from Exhaustion—E. L. SHURLY—*New York Med. Jour.*, July 16, 1898.

An unmarried woman of forty-five years suffered from dysphagia and hoarseness. There was pain in the left side of the larynx and

the patient was weak and emaciated. Examination showed the larynx filled with a growth of lobular appearance, principally on the right side. It was strictly confined to the larynx, and the cervical glands appeared unaffected. After a preliminary tracheotomy, the larynx and a considerable portion of the pharynx on the right side were removed. A microscopic examination of the growth showed it to be epithelioma. Death occurred on the eleventh day from exhaustion.

SCHEPPEGRELL.

Tuberculosis of the Throat; Its Treatment—H. M. THOMAS—*Am.*

Med. Surg. Bulletin, Sept. 25, 1898.

Constitutional and local measures are recommended. Circumscribed thickenings with a non-broken surface may be treated with creosoted iodine in glycerine or menthol in solution of olive oil. Tuberculous ulcers should be cleansed, and lactic acid (20 to 40 per cent) well rubbed in, has proven valuable. Mentholated olive oil injected into the larynx is serviceable. Inhalation of vaporized antiseptic oils act as a mechanical protection and allay distressing symptoms.

LEDERMAN.

Some Remarks Upon Syphilitic Manifestations in the Larynx—

P. T. VAUGHAN—*Atlanta Med. and Surg. Journal*, June, 1898.

The division of syphilitic manifestations into secondary and tertiary is not always satisfactory. The author has seen mucous patches occur in the throat fifteen years after the initial lesion, and gummata six months after the primary sore.

Only one case of primary syphilitic lesion of the larynx is on record. Gummata are commonly situated upon the posterior commissure, the arytenoid cartilage and the epiglottis. Syphilitic ulcers in the larynx have sharply defined borders, are excavated, have a purulent slough upon their floor, and are surrounded by highly inflamed mucous membrane, with comparative absence of pain. Tuberculous ulcers have ill-defined borders, are superficially situated, grayish in appearance, are not surrounded by inflamed mucous membrane, and the pain is severe and almost constant. Examination of the lungs and of the sputum will confirm the diagnosis. A serious complication in a patient suffering from syphilis is the development of tuberculosis.

Inunctions with mercurial ointment or the internal administration of salt of mercury is indicated when the secondaries appear, and the administration of iodide of potassium or sodium in the later stages.

SCHEPPEGRELL.

Painful Dysphagia Evidence of Syphilis—J. GAREL—*Maryland*

Med. Journal, Sept. 10, 1898.

This author claims that syphilis can be diagnosed at once, from this one symptom of persistent dysphagia at any stage. It is frequently the first and only symptom recognized by the patient. Under potassium iodid the pain disappears in forty-eight hours,

unless it is due to incipient cancer or tuberculosis of this region. Every person who complains that this symptom has existed for three or four weeks should be treated as a syphilitic.

(Rather a sweeping assertion, as frequently the symptom may arise from an enlarged lingual tonsil, or a hidden concretion in the faucial gland. M. D. L.)

LEDERMAN. □

Exophthalmic Goitre in Four Children in the Same Family—

BAYARD HOLMES—*Phil. Med. Journal*, June 11, 1898.

In view of the fact that exophthalmic goitre is usually considered rare among children, the author reports four cases, all members of the same family. The ages were twelve, nine and a half, seven, four and a half and two years, respectively.

SCHEPPEGRELL.

The Thyroid Gland in Goitre—MORELLO—*Revista Veneta de Scienze Mediche*, May 15, 1898.

The author has found the action of thyroid gland of undoubted value in parenchymatous goitre, but useless in the cystic form. When given in a small dose, but still sufficient for the case, it does not produce any general disturbance and is well borne by the patients. The curative influence begins to be manifested soon after taking the first dose.

Like all thyroid preparations, it increases the functional activity of the organs, augmenting the frequency of the pulse and respiration and raising the temperature. The activity of combustion and oxidation is increased, the quantity of fat diminished and the secretion of urine stimulated. The duration of the effect is in proportion to the length of the administration. When the desired effect is attained, it is necessary to resume treatment from time to time to prevent relapses. The author concludes that thyroïdin will supply the needed functions of the thyroid gland.

SCHEPPEGRELL.

Foreign Bodies in the Bronchi—LONDON—*Intercolonial Med. Journal, Therapeutic Gazette*, Sept. 5, 1898.

The case reported is that of a boy, seven years old, who inhaled an ebonite shirt stud into his bronchus. Asphyxia immediately set in, and great distress lasted for several hours. For three days pain was felt in the chest at a spot corresponding to the second right costal articulation.

During the following year the patient suffered from a constant cough and an attack of acute pneumonia which started with moderate hemoptysis, and finally with a purulent and offensive expectoration. At the end of a year it was noticed that no air entered the upper part of the right lung.

At the author's examination, fourteen months after the accident, there was great dyspnœa, constant coughing, profuse fetid expectoration, as much as half a pint being brought up in twenty-four

hours. Hectic fever was also a symptom. One inch of the fourth rib was excised. Puncturing the lung did not show any collection of pus. Some pus was found in breaking up some adhesions between the middle and upper lobe, and the author believed that he felt the body, but it immediately disappeared.

During a fit of coughing, after the patient had recovered from the anesthesia, the stud was expectorated. For a few days after this fortunate incident marked dyspnoea was experienced, but the boy ultimately made a good recovery. As to prognosis, the author refers to the case of Dr. Gross, in which the foreign body remained in the bronchus for sixty years, but it is more likely to cause death in from one to five years.

Where septic symptoms exist it is justifiable to employ surgical exploration, but frequently the foreign body is not discovered and at times is expelled during a spasm of cough. LEDERMAN.

Three Cases of Foreign Body in the Oesophagus—GEO. HEATON—

Phil. Med. Journal, June 25, 1898.

In the first case, a whistle was located, by means of the X rays, in the œsophagus at the level of the top of the sternum, the body being removed by œsophagotomy. In the second case, the skiagraph showed the presence of a penny, swallowed three months before, at the level of the sterno-clavicular articulation. In the third case, there was both a shilling and a penny in the œsophagus. The coin-catcher and a pair of curved forceps were successfully used in the last two cases. SCHEPPEGRELL.

V. EAR.

The Hygiene of the Ear: In Health and In Disease—FAYETTE C.

EWING—*Med. Fortnightly*, July 15 and Aug. 1, 1898.

Two lectures of a comprehensive character, covering the hygiene of the ear in health and disease. The papers impress the necessity for a more general knowledge of the mechanism—and, therefore, its hygiene—of the ear among the laity as a protection against disease and quacks. The entire organ, external, middle and internal, is discussed. A. A. (GOLDSTEIN.)

A Contribution to the Study of Foreign Bodies in the Auricular Canal—CARETTE—*Revue Hebdomadaire de Laryngologie, Etc.*, May 28, 1898.

A ball from a revolver had lodged in the auricular canal, which could be removed only by an operation enlarging the natural passage. SCHEPPEGRELL.

Death Following Removal of a Foreign Body from the Ear—

BRÜHL—*Monatschr. f. Ohrenh.*, February, 1898.

Boy four and one-half years old stuck a stone in his left ear. Repeated attempts at removal by the village barber caused considerable bleeding, intense pain and subsequently suppuration.

Examination three days later revealed hæmatoma in external auditory canal, greatly swollen and inflamed canal, through which a thick pus exuded. Cold applications and instillation of 5 per cent carbolyzed glycerin was used. Other antiseptics and anodynes were tried without avail.

Two weeks later radical operative procedures were instituted. The auricle and posterior wall of the cartilaginous meatus were detached; the stone was oval in shape, and was found lying transversely in the bony canal, one end pushed upward toward the antrum. After chiselling part of the upper and posterior bony canal wall, the stone was removed. Malleus and incus were also removed. On the sixth day after operation patient had a chill, temperature, 105° .

Mastoid symptoms ensued. A thorough mastoid operation was performed, antrum was opened, upper and posterior bony wall was removed, mastoid cells widely exposed. Three days later child died. *Post-mortem*: Thrombo-phlebitis of left transverse sinus, pleurisy and bilateral pulmonary abscess.

This case illustrates the necessity of prompt surgical interference when a foreign body in the auditory canal or middle ear exists simultaneously with a suppurative otitis, and the possibility of a pent-up discharge offers a menace to the life of the patient.

GOLDSTEIN.

A Reply to the Question: What Is the General Practitioner to Do with Cases of Ear-Ache—FRANK B. SPRAGUE, Providence, R. I.—*Atlantic Medical Weekly*, August 20, 1898.

The conditions of which ear-ache is a prominent symptom may be divided into three cases:

1. Otalgia, reflex or local when there is no sign of inflammation.

2. Inflammatory conditions of the middle ear.

3. Inflammatory conditions of the external ear.

If the drum-head is normal, with no signs of inflammation, you probably have a case of otalgia, in which there is little or no disturbance of hearing.

In the inflammatory conditions of the external ear there is frequently a moderate disturbance of hearing, but this does not occur until the pain and inflammation have lasted some time.

There are two forms of acute, middle-ear inflammation; acute catarrhal otitis media and acute suppurative otitis media. The first causes more or less impairment of hearing and may lay the foundation for chronic catarrhal deafness, if not promptly and properly treated. It is characterized by a rapid development of effusion into the tympanic cavity. This form is most frequently caused by exposure to cold and wet, to the extension of an acute catarrhal inflammation of the naso-pharynx, influenza, etc. It frequently accompanies the exanthematous diseases, dentition and hyperplasia of the adenoid tissue in the naso-pharynx, and enlarged oral tonsils.

The first duty of the physician in suppurative cases is to relieve the pain by hot water, dry heat, etc., and incision of the drum-head when necessary.

Some of the unfortunate results of this disease are permanent impairment of hearing, caries of one or more of the ossicles or tympanic wall, suppurative inflammation of the mastoid antrum and cells, with more or less necrosis; then the more or less dangerous sequelæ, as thrombosis of the sigmoid or other sinuses, peri-sinus abscess, extradural abscess, cerebral or cerebellar abscess or erosion of the carotid canal. Any of which may cause death. Or it may terminate in a chronic otorrhea.

In acute suppurative otitis media, early, vigorous treatment is demanded. And, if practitioners would treat every case of ear disease rationally, many deaths would be prevented.

MACLEAN. (BISHOP.)

The Differential Diagnosis of Reflex and Otophlogistic Otalgia—

M. F. WEYMAN—*Med. Herald*, Vol. xvii, No. 9, Sept., 1898.

The author suggests the term *otophlogistic* (!) instead of the good old word *inflammatory* for those otalgias which are not purely reflex. He relates cases illustrating both forms, and presents a differential table of the symptoms of each.

EATON.

Acute Inflammation of the Middle Ear—E. C. ELLETT, Memphis, Tenn.—*Columbus Medical Journal*, August 16, 1898.

One of the most common affections of the middle ear is acute otitis media. The large majority of cases are acute catarrhal inflammation, with serous and mucous exudations.

The one great symptom for which patients seek relief is pain, *i. e.*, ear-ache. There will be more or less symptoms of the febrile state. In children this must not be mistaken for cerebral or meningeal irritation. Often a discharge from the ear is the first intimation of the real trouble. Within twelve to twenty-four hours from the onset of the attack, the canal is normal, and the drum membrane will show redness of the upper portion and a red band along the malleus handle. A later stage will show the middle ear full of fluid, with general redness of the drum membrane, and a bulging of it to a varying degree, with the malleus handle showing as a depressed central streak. The third stage will show maceration of the epithelium of the canal and membrana tympani.

In all stages put the patient to bed, or keep him quiet, give a calomel purge, followed in six hours by a saline laxative and give an opiate. Locally to relieve the pain apply dry heat. In the early stage 15 per cent carbolyzed glycerine may be applied. If the membrana tympani is bulging and painful it may be incised, and the middle ear should be treated as an abscess cavity.

MACLEAN. (BISHOP.)

Sclerosis of the Tympanum—CASTEX—*Journal des Practiciens*, June, 1898.

Treatment consists in the administration of iodine and bromides, and in the mobilization of the tympanum and ossicles by insufflation with Itard's sound.
SCHEPPEGRELL.

Painful Paralysis of the Facial Nerve with Herpes Zoster of the Ear—JACQUET—*Am. Med. Surg. Bulletin*, Sept. 25, 1898.

The disease affected the left side and persisted for five days, with the following symptoms:

1. Swelling of the preauricular region.
2. Painful edema of the left ear, with development of herpetic ossicles on the concha.
3. Painful point at the entrance of the auditory canal.
4. Pain on pressure of the facial muscles.
5. Increase of temperature of the skin on the left side.

This condition developed after exposure to a draught, and the author believes that sensory filaments are to be found as part of the seventh nerve.
LEDERMAN.

Facial Paralysis in Acute Otitis Media—DAMIENO—*Revue Hebdomadaire de Laryng., d'Otol. et de Rhin.*, May 21, 1898.

The cure, which resulted within twenty-four hours, showed that the paralysis was due to a simple compression by the exudate and not to neuritis.
SCHEPPEGRELL.

The Microbe of Influenza and Acute Grippal Otitis Media—

LOEWENBERG—*Le Bulletin Med.*, March 2, 1898, *Am. Med. Surg. Bulletin*, Sept. 25, 1898.

From extensive bacteriological research from the outset of the great epidemic of 1889-90, the author has found that Pfeiffer's bacillus is carried into the middle ear through the Eustachian tube by sneezing, blowing and swallowing. There it produces violent inflammation, but soon perishes, as the streptococci of the ordinary air of respiration destroys it and occupies the soil. For this reason, a diagnosis of grippal otitis cannot be made on the microscopic examination of the pus or blood discharged from the tympanic cavity.

The symptoms of otitis of grippal origin, as observed by the author, are as follows:

1. At the outset of the otitis, phlyctenules filled with blood appear on the tympanic membrane, and sometimes cover it completely, but rarely appear on the walls of the auditory canal. These never appear in ordinary non-grippal cases of otitis. When the phlyctenules break and blood oozes from them, the membrane itself is at first not yet broken through to give exit to pus from within the tympanum.

2. Perforation occurs through a kind of boggy prolapse of the tympanic membrane like a cow's udder, which ultimately may become pyriform.

3. Tendency to early complications with processes rapidly destructive in the mastoid, acute caries and necrosis, thrombosis of sinuses, pyemia. Osteitis may occur at the outset, developing quietly without accompanying signs of inflammation of the tympanic cavity, which may be invaded later.

4. Persistence of pains and buzzings of the ear, often more prolonged after the perforation than in non-grippal cases. The membrane once more healed and the scar closed by cicatrix, deafness may persist, though repair seems perfect.

Other constitutional signs of the grippe must be observed to establish a positive diagnosis. A bacteriological examination of the sputum will be confirmatory. Early paracentesis to lessen suffering and prevent damage is necessary in the treatment.

LEDERMAN.

On Intracranial Complications of Suppurative Otitis Media—

GRADENIGO—*Ann. des Mal. de l'Or., Etc.*, May 28, 1898.

After reviewing the various complications which may result from a suppurative process of the middle ear, the author concludes that we have not yet discovered, at least in the early part of its evolution, a pathognomonic symptom of an intracranial complication of otic origin.

SCHEPPEGRELL.

A Case of Acute Mastoiditis with Lobar Pneumonia, Followed by Lateral Sinus Thrombosis and Pyemia; Recovery Without Operation—FRANK S. PARSONS, Boston, Mass.,—*The Atlantic Medical Weekly*, Sept. 24, 1898.

After an acute otitis media, in a boy of seven years, mastoiditis developed. An operation was advised, but the parents declined to permit it. A week after the beginning of the mastoiditis there were marked symptoms of pyemia, with a remarkable range of temperature. At 8 o'clock one evening the temperature had reached 105.6° F. By 4 o'clock the next morning it had gone down to 96.2°, a variation of 9.4°. At 9 o'clock the same morning the temperature had gone up again to 105°, and by 3 o'clock in the afternoon it had decreased to 95.5°. Chills, sweats and variations of temperature lasted for two or three weeks, when the patient gradually recovered. Another unusual feature of the case was the presence of a well-defined pneumonia during the first five days.

In conclusion, the author says: "In the face of the facts, it seems like a formidable proposition to state that a case of mastoiditis should be followed by lateral sinus thrombosis, and recovery take place by absorption of pus, but such certainly seems warranted by the history of this case, if the symptoms have been rightly interpreted, and there seems no reasonable doubt that the construction placed upon them is correct."

ANDREWS. (BISHOP.)

A Case of Cerebellar Abscess—J. H. WOODWARD—*New York Med. Journal*, June 11, 1898.

The patient, a boy of fourteen years, suffered from purulent mastoiditis. The suppurating area was curetted, irrigated and drained, but neither the mastoid antrum nor the tympanum were invaded by the operation. A year later the otorrhea had recurred and the wound in the mastoid was discharging. The patient, however, recovered under antiseptic douching and dressing. The following year mastoid inflammation again set up, cerebral symptoms soon developing, which resulted fatally.

The autopsy showed a purulent pachymeningitis over the posterior surface of the petrous portion of the left temporal bone, the bone itself being carious. The entire white matter of the left hemisphere of the cerebellum had broken down into an abscess. The author urges the necessity of the most radical operation in these cases, so as to avoid leaving a pathogenic focus for future infection.

SCHEPPEGRELL.

Auricular Disturbances due to Late Hereditary Syphilis—C. MONARI—*Revue Hebd. de Laryng., Etc.*, May 28, 1898.

A late hereditary syphilis of the middle ear is frequently shown by the appearance of exuberant polypoid granulations, which are reproduced after being removed and which yield only to specific treatment. Otorrhea may no longer be present and only cicatrices and calcareous deposits found in the tympanic membrane.

As far as the internal ear is concerned, when a pronounced case of deafness is seen developing suddenly, syphilis should be at once thought of, and treatment instituted by the hypodermatic injection of pilocarpine and general specific treatment.

SCHEPPEGRELL.

The Pathology of the Cortical Auditory Center—F. ALT—*Monatsschr. f. Ohrenheilk.*, January, 1898.

In the pathology of the labyrinth there is still a vast unexplored field, and much light can be shed by accurate clinical observation. Research and conclusions of careful investigators indicate that a principle analagous to the decussating fibers in neuro-pathology exists between the cortical center on the one side and the auditory organ on the other; this can be determined, and the lesion localized by careful clinical investigation.

Alt records a case of crossed cortical deafness. Patient, male, aged thirty-three years, was suddenly affected with paralysis of the right side. He was also unable to speak, was deaf in the right ear, accompanied by vertigo and intense tinnitus aurium. Memory greatly impaired.

The paralysis gradually improved, and speech was partially restored. Patient gave history of syphilis contracted six years before and of having used liquor freely. No anti-syphilitic treatment had been received.

Tests for hearing indicated left ear normal. Bone conduction by C₂ tuning-fork is longer by nine seconds on left ear than in right. Voice tests and tuning-fork by air conduction not heard on right side.

Diagnosis, syphilitic endarteritis, resulting in thrombosis and softening.

A lesion of the left temporal lobe, involving the cortex and also the deeper areas would account for the combined symptoms of paralysis of right side, crossed cortical deafness, loss of memory and aphasia.

GOLDSTEIN.

VI. DIPHTHERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

Diphtheria—J. E. WALSH—*New York Med. Journal*, June 18, 1898.

A study of the etiology, pathology and treatment of diphtheria. Antitoxin is recommended and the only bad effect observed is urticaria.

SCHEPPEGRELL.

The Early Diagnosis of Diphtheria—W. K. JAKES—*Medical Standard*, September, 1898.

The author emphasizes the necessity for an early bacteriological examination in all anginas. In malignant cases a direct diagnosis can be made. A little of the mucus or membrane taken directly from the site of the invasion, spread on the cover glass or slide, fixed by heat and stained, may then be examined. In other cases a culture can be made. In this the author has discarded the usual laboratory test tube, substituting the small metal culture box. The box, when inoculated, can be placed in the watch pocket, where the heat of the body will keep up the proper temperature, and the culture is ready for examination after three or four hours.

STEIN. (BISHOP.)

Diphtheria Affecting the Skin—GEO. SHARP—*Phil. Med. Journ.*, June 25, 1898.

Two cases are reported by the author, neither of which was secondary to a nasal or throat affection. The first had the appearance of herpes, which became purulent. The second case followed a burn on the cheek.

SCHEPPEGRELL.

Observations in Diphtheria—H. D. JEROWITZ—*Phil. Med. Journal*, June 18, 1898.

Involvement of the larynx is always sudden and appears as a new attack and not by extension of the diphtheritic process. Every case complicated by uremia observed by the author had post-diphtheritic paralysis.

SCHEPPEGRELL.

The Clinical Relations of the Loeffler Bacillus—F. L. WACHENHEIM—*New York Med. Journal*, June 18, 1898.

All cases of acute throat disease should be at once isolated without awaiting the result of bacteriologic investigations. Local antiseptics is indicated in every form of angina.

In view of the advantages of the early use of antitoxin, it should be administered at once in every case that presents a membranous deposit in the fauces, without awaiting the result of a bacteriologic examination.
SCHEPPEGRELL.

Diphtheria and Membranous Croup, Their Differential Diagnosis and Treatment—W. T. DAVIDSON—*Texas Med. Jour.* July, 1898.

An effort to establish a differential diagnosis by the clinical appearance as well as the bacteriologic examination. Antitoxin is recommended in diphtheritic laryngitis.
SCHEPPEGRELL.

Diphtheria and Antitoxin—D. C. MORIARTY—*New York Med. Jour.*, July 23, 1898.

Diphtheria antitoxin *per se* is harmless. It is practically a specific in diphtheria, but must be given early in full doses of a reliable product. No case is so far advanced that antitoxin should not be used, but early administration affords the best results, and it should be promptly given on clinical grounds without waiting for the report of the bacteriologist.
SCHEPPEGRELL.

Diphtheria Antitoxin: A Report of the Clinical Society of London
—COMMITTEE CLINIC SOCIETY OF LONDON—*Phil. Med. Journ.*, June 18, 1898.

The Committee submitted its report at the last meeting of the Society, the general result of the inquiry being that in the cases of diphtheria treated with antitoxin, not only is the mortality notably lessened, but the duration of life in fatal cases is also prolonged. The injection of antitoxin was found to produce rashes, joint-pains and fever. With these exceptions, no prejudicial action was observed in the series of cases investigated, even when large doses were employed.
SCHEPPEGRELL.

Indications for Intubation—H. M. McCLANAHAN—*Phil. Med. Journal*, June 18, 1898.

Intubation should be performed in all cases presenting one of the following symptoms prominently: Deep epigastric recession with each inspiration; labored and prolonged expiration; extreme restlessness; spasmodic attacks coming on at intervals; persistent cyanosis.

In cases seen late it may be wiser to intubate and administer antitoxin rather than administer antitoxin and wait for its effects before intubation.
SCHEPPEGRELL.

The Pathology of Asthma—KANTHACK—*Phila. Med. Jour.*, June 11, 1898.

The author believes that there is a true anatomic basis for serious cases of asthma, and that the so-called neurotic tendencies, apart from hysteria and neurasthenia, are altogether of secondary importance.

SCHEPPEGRELL.

The Possibilities and Limitations of Serum Therapy—W. E. SANDERS—*Phil. Med. Journal*, June 18, 1898.

As tuberculosis is usually local and does not produce immunity after infection, it is probably impossible to effect a cure by serum therapy. Spontaneous cure may, however, result from the formation of fibrous tissue around the foci, and this may account for the improvement reported in certain of the cases treated with the various sera. Another objection to the serum therapy of tuberculosis is the fact that many of the symptoms are due to secondary or mixed infections.

SCHEPPEGRELL.

Prevention of Tuberculosis—M. M. SMITH—*Virginia Med. Semi-Monthly*, July 8, 1898.

The author urges the advantages of the recommendation suggested by the Medical Board of Health of the City of New York, viz.:

1. The establishment of tubercular hospitals for the treatment and control of indigent patients.
2. The adoption of suitable laws requiring all cases to be reported and restricted.
3. That all institutions that admit tubercular patients be subject to the inspection of the board.
4. That the people at large be taught about its dangers and sources of infection and methods of prevention.

SCHEPPEGRELL.

The Influence of Sunlight on Tuberculous Sputum in Denver: A Study as to the Cause of the Great Degree of Immunity Against Tuberculosis Enjoyed by Those Living at High Altitudes—W. C. MITCHELL AND H. C. CROUCH—*Phil. Med. Journal*, June 11, 1898.

Tuberculous sputum loses its pathogenic character after exposure to sunlight for more than thirty-five hours. The dryness of the atmosphere, in addition to the solar rays, prevents the growth of the bacilli.

SCHEPPEGRELL.

VII. INSTRUMENTS AND THERAPY.

Gelsemium—Preparations and Uses—H. H. NOTTAGE—*Atlanta Med. and Surg. Jour.*, June, 1898.

In enumerating the therapeutic uses of this drug, the author states that it is indicated in the first stages of colds and local con-

gestion of the lungs and bronchi. It is far superior to quinine in influenza; in the first stages of the disease, five drops of the tincture of gelsemium are given, and ten to twenty are placed in 118 c.c. of water and a teaspoonful administered every hour until pain is relieved. In many cases of acute coryza, gelsemium is considered almost a specific.

SCHEPPEGRELL.

Eucaïne Hydrochlorate "B" as a Local Anesthetic in the Nose—

L. S. SOMERS—*The Therapeutic Gazette*, Sept. 15, 1898.

Some time ago the author reported a series of cases in which he had tried eucaïne itself, and found that it was unsatisfactory as compared with cocaine. The present report is based upon observations made upon a series of cases in which another preparation of the same drug, called eucaïne "B," was employed.

This drug is non-irritating and possesses but a small degree of toxic properties. Its local anesthetic properties are not impaired by boiling.

The following conclusions are reached by the author from a study of the results obtained by the use of this drug, as compared with cocaine:

1. Eucaïne hydrochlorate "B" in three per cent solution produces as complete anesthesia of the nasal mucous membrane as does a four per cent solution of cocaine.
2. Its action is slower than cocaine.
3. The anesthesia is dissipated more rapidly than that produced by cocaine.
4. It is non-toxic in the strength and manner used.
5. As it has no apparent shrinking action on the turbinal investiture as has cocaine, it is therefore less valuable for nasal surgery than cocaine.
6. It is superior to the former variety of eucaïne because its toxic properties are less, it is more rapid in action, is non-irritating and the same degree of anesthesia may be produced by smaller amounts of the drug.

LEDERMAN.

The Advantages of Chromic Acid for Intranasal Cauterization—

H. LAVRAND—*Journ. des Sciences Med. de Lille*, June 18, 1898.

Chromic acid fused on a stylet forms the best means of making intranasal cauterizations, as it does not tend to form adhesions. It can be used with advantage to ulcerated points, and to the seat of adhesions after they have been broken down, to prevent their recurrence.

[In the abstractor's work on "Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear," the comparative value of mineral acids and the electro-cautery is discussed and the disadvantage of chromic acid in this connection pointed out.—W. S.]

SCHEPPEGRELL.

Acute Follicular Tonsillitis—F. INGALS—*Louisville Med. Monthly*, July, 1898.

In the treatment of this condition, the author recommends the application to the inflamed tonsil of a 50 per cent solution of guaiacol in oil of sweet almonds. Internally:

R— Potass. bromid 80 grs.
 Sodii salicylat.
 Tinct. opii deod. aa ʒi
 Cascara cordial ad. ʒi

M. Sig.—Teaspoonful every four hours in water.

SCHEPPEGRELL.

Eczema of the External Auditory Canal—EXCH.—*Louisville Med. Monthly*, July, 1898.

R.—Acid phos. dil ʒi
 Tinct. ferri perchlor. ʒss
 Syr. limonis ʒvi

M. Sig.—Teaspoonful in wine glass of water after meals.

R.—Acid carbol. pur gr. x
 Ungt. zinc. ox. benz ʒiv

M. Sig.—Apply.

Begin the local treatment by cleansing the ears with this ointment spread upon cotton on the applicator, then make a free application of the same ointment. No fluids, soap or water must be used, as they nearly always prove deleterious. SCHEPPEGRELL.

Cimicifuga in Tinnitus Aurium—A. ROBIN AND MENDEL—*Méd. Moderne*, May 11, 1898.

Tinnitus may be considered the reaction of the auditory nerve to direct or reflex irritation. *Cimicifuga racemosa* possesses an action upon the auricular circulation and upon the reflex irritability of the auditory nerve. The average dose is thirty drops of the extract per day. Tinnitus of more than two years' duration is but little influenced by *cimicifuga*. SCHEPPEGRELL.

Argonin versus Boric Acid in Acute Suppuration of the Middle Ear—F. GRAY AND W. THOMPSON—*Tex. Courier-Record of Med.*, July, 1898.

Argonin solution is highly antiseptic, while boric acid, if at all, is very slightly so. Argonin in solution can be forced through a small perforation in the drum-head, thus reaching every part of the tympanic cavity and Eustachian tube. In a similar case, boric acid lies inactive in the external auditory canal.

Argonin can be used to flush the middle ear and tube, thus reaching every part of the inflamed tract, carrying out with it all products of inflammation. Argonin excites a positive and decided effect upon the suppurative process; boric acid possesses this property but feebly. Argonin stimulates the closing of perforations in the drum-head; boric acid has no such action. SCHEPPEGRELL.

The Action of the X-Rays on Cultures of the Tubercle Bacillus—

F. POTT—*Médecine Experimentale*, June, 1898.

The author concludes that the X-rays have no effect on the bacillus of Koch, as the cultures, exposed to the action of the rays for a period varying from one-half hour to eleven hours, differ in no way from the unexposed cultures.

SCHEPPEGRELL.

Phthisis, or Pulmonary Tuberculosis—J. L. CAMPBELL—*Atlanta Med. and Surg. Jour.*, June, 1898.

Hygienic measures are recommended and Koch's tuberculin considered the ideal treatment

SCHEPPEGRELL.

The Serum Cure of Tuberculosis—DUCHATEAU—*Nord Med.*, June 15, 1898.

Two cases are reported as being cured by the serum treatment. The author admits, however, that further observations are required before these cases can be properly considered as cured.

SCHEPPEGRELL.

Spontaneous Cure of Tuberculosis and the Imitation of Its Methods—J. T. WHITTAKER—*Va. Medical Semi-Monthly*, June 24, 1898.

To each quart of blood, one-half ounce each of sodium bicarbonate and sugar of milk, and one dram of common salt are added. A pint of water thus prepared is added to a pint of blood, this being thrown up high into the bowel. Such enemata were retained with ease, and, after their repeated use, marked increase in weight and gain in nutrition were noticed, especially in anemic cases.

SCHEPPEGRELL.

The Use of Creasoted Oil for the Expulsion of Tracheal False Membrane After Tracheotomy and for Intra-Nasal Injections in Various Affections—WM. EWART—*Gaillard's Medical Journal*, August, 1898.

Ewart recommends the use of creasoted oil after tracheotomy to promote the expectoration of the false membrane, to assist in its detachment, to lessen its infectiveness *in situ*, and to stimulate and soothe the ulcerated mucous surfaces.

EWING. (BISHOP.)

BOOK REVIEW.

Die Krankheiten des Mundes. By DR. J. MIKULICZ and DR. W. KÜMMEL, Breslau, Germany. Large octavo, 250 pages, two chrome-lithograph plates and 62 text illustrations. Published by Gustav Fischer, Jena, 1898. American agents, Lemcke & Buechner, New York. Price, unbound, \$1.75; bound in cloth, \$2.00.

The most practical work on diseases of the mouth yet published. The reputation of the authors and collaborators, and the excellence of the work, characterizes this volume as a valuable book of reference for both the specialist and general practitioner. The class of diseases under consideration are exclusively those of the mouth. These include the general infections involving the mouth; diseases of the tongue, gums, lips and cheek, palate and uvula; an exhaustive section on tumors, benign and malignant; special chapters on diseases of the mouth in children (from the pen of Professor A. Czerny) and the consideration of the syphilitic affections of the mouth (by Dr. J. Schaeffer).

Special attention is devoted to the consideration of diagnosis and therapy. The diseases of the teeth, properly within the scope of this work, are not considered, as this section is classed more directly within the range of dentistry.

The illustrations are excellent and numerous. The volume is exceptionally well arranged and is a valuable addition to its class. M. A. G.

Hygiene of the Voice, with 27 illustrations, 144 pp., paper. By THOS. F. RUMBOLD, St. Louis. Witt Publishing Co., St. Louis, 1898. Price, 50 cents.

A subject of such importance as hygiene of the voice, when treated by so experienced a laryngologist as Dr. Thos. F. Rumbold, must possess unusual interest, and this expectation is fully realized in the work just published.

Being written in a simple style, refraining as far as possible from technicalities, the subject is made intelligible to the ordinary reader, while there is much useful instruction for physicians in general, and even the specialist will find many original investigations of interest.

The latter refers especially to a series of examinations of the soft palate, uvula and the azygos prominence made by passing the mirror through the nasal passage, the author having been fortunate enough to have a number of patients in which this procedure was practicable. The subject of the abnormal curvature of the epiglottis, resulting from disease of the throat in early life, and that of the undeveloped larynxes, due to the same cause, have been carefully investigated and are of much interest.

The care of the voice is described in detail, and the various conditions which have an adverse influence enumerated. The hygiene of the ears is also considered; the subject of the effects of the voice in cases of patent Eustachian tubes deserves especial attention. The injurious influence of the majority of gargles, troches, "comforts," etc., is pointed out, and a few remedies mentioned which may be entrusted with safety in the hands of the patient. The effect of tobacco on the mucous membrane is carefully considered, and this has evidently been thoroughly investigated by the author, who insists on its injurious influence.

The book is illustrated and has a complete glossary of the technical terms used in the work. It can be heartily recommended to singers and speakers, for whom there is much matter of importance, and to physicians, who will find many points of interest for their practice. W. S.



MEMORIAL MONUMENT, DR. HANS WILHELM MEYER.

THE LARYNGOSCOPE.

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ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

SPEECH MADE AT THE UNVEILING OF THE WILHELM MEYER MONUMENT, AT COPENHAGEN.

BY SIR FELIX SEMON, M.D.

MR. MAYOR, LADIES AND GENTLEMEN—The Executive Committee of the Wilhelm Meyer Memorial have delegated to me the signal honor to hand over the monument, erected by international subscriptions in his honor, to the care of the Copenhagen municipality. In fulfilling this pleasing task I much regret my inability to address you in the Danish tongue, and for this reason alone I must not trespass long upon your patience. At the same time, this occasion is such a very unusual one that I may be permitted to say a few words pointing out its meaning and importance.

We are assembled here to-day to unveil a monument erected in honor of the late Dr. Hans Wilhelm Meyer. A monument in honor of a physician—that in itself is a very uncommon thing. To be immortalized by the sculptor's art in brass or marble in a public place has usually been reserved, from times of old, to some few classes of the community only. Great rulers, benevolent or warrior princes, distinguished statesmen, victorious generals and admirals—these are the privileged mortals in honor of whom most frequently monuments have been erected; more rarely has such a reward

fallen to the lot of great artists, poets, painters, musicians, sculptors; still less frequently have men of science, philosophers, law-givers, inventors, and other leaders of intellect thus been distinguished; few and far between are monuments erected in honor of members of the medical profession. Nor is the reason of this far to seek. Slowly and by the labor of many is the edifice of scientific medicine being erected. The brain work of a lifetime of a physician usually means hardly a single brick in this ever-growing structure. Even if of uncommon importance, his achievements rarely pass outside a comparatively narrow circle within his own profession; not often is his fame of a really universal character amongst his own compeers; still less frequently does it appeal to the imagination, to the gratitude of the community at large. Thus the ordinary fate of the scientific physician, even if in his day he has been successful in promoting, by teaching and writing, the welfare of mankind, as a rule is not of a largely resplendent character. A few complimentary obituary notices, the grateful recollection of some friends and pupils, not as a rule lasting longer than into the immediate following generation, finally a resting place for his name in those corners of medical literature in the development of which he had been most active—this is the summary of the life-work of most leaders of the medical profession.

What, then, has been the conspicuous merit of Hans Wilhelm Meyer that he should have been singled out for so unusual an honor as the one which is going to be paid to his memory to-day? The answer is easily given. It is now just thirty years since he was one day consulted by a girl, aged twenty, who suffered from deafness, whose voice was most peculiar, and the expression of whose face was almost idiotic. Treatment directed to the ears and to the throat failed, and it was not until the puzzled observer one day introduced his finger into the space between the nose and throat that an unexpected solution was met with. Instead of penetrating into an open cavity, the finger was arrested by a large, soft, easily bleeding mass, a condition the existence and nature of which in those days formed a *terra incognita*. Meyer succeeded in removing this mass by operation, with the result that the deafness was materially improved, the voice became natural, and the idiotic expression of the face disappeared. Gratifying as this result was in itself, it was, however, only then that Meyer's real merit commenced. Schopenhauer has truly said that not he is finder of a thing who lifts it from the ground and drops it again, but he who, recognizing its value, takes it up and keeps it.

If Meyer had regarded his experience in the light of a mere pathological curiosity, again years and years might have passed before the importance of the subject was realized. But with the true instinct of the scientific observer who develops what is ultimately to become an important truth from small beginnings, Meyer did not drop the clue which a casual observation had placed in his hands. He began studying the subject in all its bearings; he examined the masses he had removed with regard to their structure; he investigated the results which obstruction of the space between the nose and throat exercised upon hearing, articulation, facial expression, general, mental and bodily development; he examined 2,000 Copenhagen school children with regard to the frequency of this affection; he made himself the apostle of his own teaching by proclaiming it not only in his own country, but also in scientific publications abroad. In one word, to such an extent did he realize the true significance of his discovery that he left to his successors merely the addition of more or less important details, whilst the foundation of the edifice erected by him has remained unchanged from the time of his own first publication on the subject.

Nevertheless it cannot be said that this teaching at first made very rapid headway. When in 1881 he introduced a discussion on the subject at the International Medical Congress of London it came almost—I well remember—as a novelty to many of his audience, although that was mainly composed of specialists, and it was only in the next decade that the true importance of the subject was realized throughout the world. It was at first not easy to convince the bulk of the medical profession, the parents of the mostly juvenile patients, and the schoolmasters, that a discovery had been made which, like few others in medicine, was of the utmost practical importance concerning the development of a healthy mind in a healthy body of the rising generation, and it needed the irrefutable proof of the surprising improvement seen in the subjects of successful operations to make this conviction a universal one. But truth, though slowly, ever forces its onward way, and when Meyer three years ago closed his eyes he had the satisfaction of knowing that the value of his discovery had at last been universally recognized. Already then the number of those who, through the timely removal of the obstructing glands, had been saved from lifelong deafness or from the lasting results of obstructed nasal respiration amounted to many thousands, and the benefits achieved through Meyer's merits will continue to accrue in future times to hundreds of thousands and to millions.

The proposition made immediately after his death to erect a statue to him at Copenhagen under these circumstances met with the most sympathetic reception; committees were formed in almost every country in which scientific medicine is established; physicians, surgeons, specialists, general practitioners, grateful patients, former patients, showed themselves anxious to contribute their mite towards a truly international monument of gratitude of his contemporaries towards the deceased great benefactor of the human race, and the result we see to-day before us in the shape of this beautiful and touching monument, which will carry the names of the artists, Messrs. Bissen and Runeberg, to every quarter of the globe.

It is true that in the general chorus of approbation a few dissentient voices have been heard. "What after all," it has been said, "has been Meyer's extraordinary merit? He put his finger up behind a patient's palate and found an obstruction which he removed, and which turned out to occur more frequently than could at first have been supposed." Very true, but need I remind my audience that the same specious argument had been used against the claims of Christopher Columbus? America had been there all the time, only waiting, as it were, for the bold sailor who dared to go westward until he struck a new continent. But Columbus did it! The naso-pharyngeal cavity had been there waiting for its explorer ever since man in his present shape has been in existence; pathological obstruction of this cavity has been as old as the records of the sculptor's art allow us to go back. In the last paper on the subject, which Meyer wrote a few months before his death, he showed that the facial expression of some Greek statues and busts which have come down to our times left no doubt that the originals had been suffering from "adenoid vegetations;" mediæval portraits of historical personages prove the same fact. Any physician might have conceived the idea of investigating the subject as Meyer did in 1868, but it was left to Meyer to do it, and having done so to realize the importance of his discovery, whereby he became, without exaggeration, a true benefactor of the human race. That is why we are assembled here to-day, that is why we do honor to his memory.

Gentlemen, the country of Denmark has been rich in producing men of eminence in almost all branches of human activity. If in many instances the nature of their distinction is better known to their own compatriots than to the world at large, this is but natural, and is an experience which is repeated in every country under the

sun. There are some Danes, however, whose names are household words throughout the civilized world, whose reputation is not a local but a universal one, and who, whilst their countrymen may be justly proud of them, belong, as it were, to mankind at large. Need I mention the names of Tycho Brahe, of Bertel Thorwaldsen, of Hans Christian Oersted, of Hans Christian Andersen, of Niels Gade? To those great names I think may be reverently added the name of Hans Wilhelm Meyer, one of the greatest benefactors to mankind medicine has known.

Mr. Mayor, in the name of the subscribers to this monument, who have gladly contributed towards this external sign of gratitude erected in memory of your great compatriot, I have the honor to deliver the monument of Hans Wilhelm Meyer to the safe keeping of the municipality of Copenhagen.

October 25, 1898.

To Commemorate O'Dwyer's Name.

At the meeting of the Section on Diseases of Children, of the American Medical Association, held at Denver, Colo., June 7-10, 1898, it was moved and carried unanimously that "A Memorial Committee" be appointed to commemorate the late Joseph O'Dwyer, with suitable powers, etc., to collect such moneys, and to act with other bodies for the same purpose. The committee is composed of the following: Dr. Louis Fischer, New York City; Chairman, Dr. J. P. Crozier Griffith, Philadelphia, Pa., and Dr. F. E. Waxham, Denver, Colo.

VERTIGO; ESPECIALLY AS RELATED TO NASAL DISEASES.*

BY OTTO J. STEIN, M.D., CHICAGO.

Professor of Diseases of the Nose and Throat at the Post-Graduate Medical School and Hospital.

The discussion of the subject under consideration, if it is to be of an impartial nature, and at the same time, with the aim of presenting the matter in as true a light as our present knowledge will allow, is beset with several difficulties; and it is not the ambitious aim of my paper to clear away all the doubts and suspicions that are bound to cling in the minds of some as to the conclusive cause of this form of vertigo: but its aim is to impress upon the mind of the physician the importance of the careful analysis of a single symptom, and the value of recognizing nasal disease as a causative factor in some of the various forms of vertigo.

As it has been a matter of teaching and understanding in the past by many, and especially the aurist, that vertigo was necessarily of aural origin, and in an attempt to bring the matter before you in as comprehensive a sense as possible, I will first cite the history of a case of nasal vertigo.

Mr. F., a tailor, age forty-nine years, was referred to my clinic at the Post-Graduate Medical School, August 1, 1897, for a vertigo that had been troubling him since May of the same year. For three months prior to his being seen by me, he had consulted some of our most able and careful men in the profession, who found various disturbances as the cause of the existing vertigo. For a time he was under treatment for his liver, then for his kidneys, then for his nervous system, but all to no avail. The vertigo continued and increased in spite of the excellent services he had employed. When I first saw the patient he was having from one to three attacks of vertigo a day. At this time there was a distinct tinnitus, but of a very faint and distant buzzing character, which seemed more prominent shortly before the attacks. The severity of the attacks was such that he declared, invariably, on the approach of an attack, he had to reach out for something to grasp in order to prevent himself from falling. On this account he was incapacitated for all work. He recounts having actually fallen but once, and that was while riding a bicycle. A dizziness came over him and he fell from his wheel.

*Read before the Chicago Medical Society, October 12, 1898.

Vomiting and paresis were at no time present. He claims to have never lost consciousness once. He was often dazed, but always knew what transpired. The sensations experienced during the attacks varied. Once he felt as if the ceiling were coming down on him; more often he felt as if he were inverted. There were no distinct sensations of turning in any particular direction, or of falling to one side or the other. Their nature seemed to be more objective than subjective. On account of the repeated occurrence and increase in severity of the attacks, the patient became markedly depressed and alarmed, although he did not seem to be of a particularly neurotic temperament. In this respect his family history was also good. He was not disposed to any illness, and had always been well and strong. In all habits he is very moderate. Otherwise, physically, he presented no appearance that might have made one think there was a more remote cause at work, excepting, perhaps, his color, which is dark and of a somewhat icterus nature. On this account he was referred to Dr. Arthur Edwards for examination, who reported negatively on the case. He was also referred to Dr. Casey Wood's service at the Post-Graduate School on account of his eyes. The examination showed nothing of importance.

On inspection of the nares, one saw a general hypertrophic rhinitis, enormously exaggerated in the condition of the middle turbinal on the right side, pressing against the septum, which was somewhat deflected to the left, causing its anterior end to appear very much swollen and congested. The naso-pharynx was found to be the seat of a severe catarrhal inflammation, kept alive by the pent-up secretions behind the stenosed nasal fossæ. The oro and naso-pharynx were extremely hypersensitive, and made post-rhinoscopy, even under 10 and 20 per cent spray solutions of cocaine, very difficult. The mucous membrane of both nares was also hyperæsthetic. Examination with a probe would, at certain spots, elicit a spasmodic cough, and, at times, a sense of giddiness. To this symptom I direct particular attention.

The hearing with right ear was very good, with no subjective symptoms. The left ear did not perceive the sound of a 60-inch watch further than 12 inches. The drumhead presented a rather flaccid, but, at the same time, slightly retracted, appearance. By aid of the pneumatic speculum this was fully demonstrated. There seemed to be signs of cicatrices present, and by forced inflation a slight hissing sound was detected, although the perforation could not be seen. The left Eustachian tube, as a rule, was difficult of inflation, but it was always possible. Local treatment, with the iodides and bromides internally, for a short time, apparently gave but little relief.

Turbinotomy of the right middle turbinal, and subsequent cauterizations of the inferior turbinal, resulted in a remarkably rapid cessation of the vertigo. The aural catarrh continued the same. The tinnitus, which has been quite severe of late, responds now most readily to the bromides. The hearing is the same; if anything, there is a slight decline. The nares, when last seen, were free from any trouble, and with no sign of the vertigo since the time of operation, about a year ago.

As to the diagnosis in this case, I will say that the absence of concomitant symptoms pointing to organic disease of the central nervous system; functional disease of the nervous system, as reflex epilepsy; cardio-vascular disease; ocular disturbance, or to a toxemia resulting from alcohol, tobacco or decomposition in the gastro-intestinal canal, may be precluded as a probable causative factor. The presence of aural symptoms forces us to consider this disturbance as a possible etiological condition. Vertigo due to aural causes does not differ from vertigo due to many other causes. But the treatment employed in relieving aural vertigo, *i. e.*, iodides, bromides, inflation of the middle ear, etc., had no appreciable effect on the vertigo under consideration, while the operative procedure on the nose, as described, brought about almost immediate relief. Besides, the aural catarrh, as first found, remained and still remains about the same. And, finally, the sense of giddiness produced at times by a painstaking probing on the side of the lesion, should remove any doubt as to the classification of this case of vertigo.

A résumé of the subject of vertigo in general is probably essential to a more comprehensive understanding of the matter in hand. In attempting this we are confronted with several different theories as to its mode of production.

The older theory that the inner ear is the seat of the organ of equilibration, so thoroughly engrafted upon our minds from the long list of experiments carried out upon this organ of hearing, in both humans and animals, from the time of Flourens and Goltz to the present, is the one generally accepted as furnishing convincing evidence as to the cause of this intricate phenomenon. It will be but a reiteration of our physiology to explain the mode in which this condition of vertigo is supposed to occur, but it is essential to freshen our minds a bit upon the method of its occurrence to more fully appreciate the entire subject. Remembering the anatomy of the inner ear as consisting of three parts, the three semi-circular canals, the cochlea and the vestibule, which lies between the two former. A membranous portion filled with a fluid called endolymph is anchored

in a similar fluid called perilymph within these bony parts. These lymph-like fluids are renewed by means of a duct passing from the vestibule to, or in the neighborhood of, an epicerebral lymph-cavity. Its nerve is the auditory; composed, according to Duval and Laborde, of both motor and sensory fibers, and arises both from the floor of the fourth ventricle and the crus cerebelli. It enters the internal auditory meatus in company with the facial nerve, and within divides into vestibular and cochlear branches. The vestibular branches enter the vestibule on its inner wall through several sieve-like openings, distributing its terminal filaments to the ampullæ of the semi-circular canals and to the sacculus and utriculus. The ampullar branches are said to contain the motor fibers. Now, in explanation of the theory promulgated by Goltz and others, that the semi-circular canals are a special organ of sense, serving to maintain the equilibrium of the head, and indirectly the whole body, we are told that an impulse, like that produced by the current flow of the endolymph within its membranous canal, and resulting from every movement of the head and body, is given to the terminal nerves in the vestibule and sent by way of the auditory nerve to the center of equilibrium, residing in the median lobe of the cerebellum, and thus we are told of our position in space. This is known as "sense of equilibrium." If this impulse is increased in any way, causing an irritation, the "sense of equilibrium" becomes disturbed, and we have resulting a condition called vertigo. The symptoms frequently accompanying a vertigo, like nausea, vomiting, pallor, slow breathing, weak pulse, etc., we are told, are due to what is known as the "overflow theory." The excess of nervous energy resulting from the over-irritation is conveyed to the contiguous centers that control the above conditions.

This, then, in substance, is the mode of production of vertigo, as believed in by the disciples of Flourens and Goltz.

Now, we know that direct stimulation of the cerebellum, as from intra-cranial tumors, cerebral hemorrhage, inflammatory products, etc., produces similar disturbances in equilibrium and locomotion as those recited above resulting from an irritation emanating at or about the terminal filaments of the auditory nerve. Just so may like symptoms be produced by an involvement of any part of the auditory nerve from its origin to its endings. And still farther; from a recent report by H. A. Alderton, of Brooklyn, N. Y., in the *Annals of O., R. and L.* (February, 1898, page 14), we learn of a vertigo produced by the simple stimulation of the membrane of the middle ear by means of a cotton-carrying probe. Furthermore, and in

direct opposition to the theory as set forth above, both Politzer and Lucae report cases where there was congenital absence of the semi-circular canals, or where they were filled with blood, and still *no* disturbance of equilibrium or vertigo existed. Steiner and Sewall, in their experiments on the shark, which has an auditory apparatus the same as in humans, found, on removing the semi-circular canals, no disturbances in equilibrium. Similar experiments on frogs and lizards verify this. M. A. Goldstein, of St. Louis, presented before the recent annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association a specimen of exfoliation of the cochlea and semi-circular canals from a negro boy of seven years, who presented no disturbances in equilibrium or co-ordination. Out of nearly 50 cases of necrosis of the labyrinth recorded by Bezold, only 12 showed any symptoms of vertigo.

From these more recent and careful experiments, and from the clinical cases mentioned, one is seemingly justified in questioning the theory as laid down by Flourens and Goltz, that the labyrinth is the seat of the organ of equilibration, and which regulates all our movements in space. That the earlier experiments resulted in the finding of a vertigo after each and every operation upon the inner ear is now attributed to the lack of care exercised in the carrying on of the experiments, and that there was an injury done to the brain, either directly or indirectly, by traction on the auditory nerve. Experiments carefully carried on, with this fact in view, do not admit of the existence of a vertigo as an accompaniment.

The question that the auditory apparatus is a dual organ, and that the function of the one disturbed is maintained by the other, might be brought up as an argument. But this would not explain the cause of the vertigo in cases where it really existed. It would only explain the reason of its absence, but not the reason of its presence.

The reflex theory is the one supported by many as the true explanation of this phenomenon. Under this head it is more easy to explain and understand the various forms of vertigo that constantly come to our notice. But it is not the purport of this paper to discuss vertigo in all its forms, but simply in its relationship to nasal disease. A simple reflex phenomenon consists of an impulse conveyed by a sensory nerve fiber to a central nervous cell or mechanism, and thence it is reflected by a motor fiber to some motor organ. In the nose the trigeminus, or fifth cranial nerve, is the principal sensory nerve involved in this act, supplying, as it does, the anterior part of the septum and inferior turbinals and meatuses. Other sensory nerves in these parts are branches from Meckel's ganglion and from

the vidian, these supplying the superior-posterior part of the septum, and the superior and middle turbinals and meatuses.

John MacKenzie and Sandman have, by extensive experimentation, located certain areas in the nose, which, upon irritation, were peculiarly susceptible in the production of reflexes. They locate these areas at the anterior and posterior ends of the middle and inferior turbinals and the corresponding parts on the septum. Lennox Browne, in discussing the subject of "sensitive areas," says: "References have been made to sensitive areas on inner surface of inferior turbinals, as demonstrated by J. MacKenzie and Häck. This is too narrow a view, to regard this region as the only sensitive one. Sajous describes three other ones; on outer wall of fossæ, in front of middle turbinal, and two on that body—anterior and posterior ends. My own experience points to the fact that on the septum, and especially over spurs and projections caused by deflections, there are 'sensitive areas,' and that the situations thereof vary greatly. Some authors hold that there are separate 'sensitive areas,' corresponding to the acts of lachrymation and sneezing, and in addition to an 'asthma zone' and a 'cough zone.' "

Such is the expression of this authority.

In my opinion the nostrils are not endowed with any special sensitive spots, but where such a condition is manifest there exists a hypersensitive condition due to a morbid state of the nervous supply of that part, and its location may be at almost any place in the nostril. MacKenzie, in his article on "Pathological Nasal Reflex" (*N. Y. Medical Journal*, 1887), advanced the theory of erectile-tissue engorgement, or hypertrophy, as a condition necessary to the production of the nasal reflex. Burnett, Hofmann, Bosworth, Fränkel, and others, maintain it is not necessary that such a previous condition of the erectile tissue of these specially sensitive areas exist before a reflex is elicited. In their defense they recite cases of atrophic rhinitis in which reflex cough, asthma, etc., existed. Some writers, like Heymann and Rossbach, maintain that a neurotic predisposition is a necessity for the exhibition of a nasal reflex. This probably is the view held by most neurologists. That there is such a thing as nasal reflex cannot be disputed when we have most conclusive evidence of its existence in some physiological conditions, such as the movements of the *alæ nasi*, the flow of normal secretions on stimulation, sneezing, etc.

Pathologically, we have a host of troubles following nasal irritation, amongst which may be mentioned spasmodic asthma from polyp, tic douloureux from a nasal spur, head-ache, aphonia, chorea,

salivation, cough, neuralgic pains affecting the arm and shoulder, twitching of facial muscles, functional heart affections, esophageal spasm, Basedow's disease, hay fever, nocturnal incontinence, various sexual disturbances and eye affections, stammering, vertigo, and so forth. Vertigo from nasal irritation has been reported by quite a number of authors. Joal reports nine cases; Häck, four; Fränkel, two; Heryng, three; Schmaltz and Massei also report cases.

As to the exact mode of production there is much speculation and division of opinion. That it is a reflex neurosis, the consensus of opinion will attest to. As to the nature of the neurosis, opinions differ. Of the reflex nasal neuroses, we have to consider the: 1, sensory; 2, motor; 3, secretory; 4, vaso-motor, and 5, trophic varieties.

The sensory, secretory and trophic varieties, I think, might be dismissed without further thought. Our morbid condition, then, resolves itself into motor and vaso-motor. It might be of purely motor form. The irritant is received at the hypersensitive station in the nose, whence the impulse is sent along some branch of the trigeminus, or of Meckel's ganglion, and, by connection with branches of the sympathetic, reaches the vertiginous center, or centers, for some authors are of the opinion that there exists a series of centers that are concerned in the production of vertigo.

More likely it is a combination of both motor and vaso-motor forms. The impulse sent along the afferent trigeminal nerve is reflected along a vaso-motor nerve, producing an alteration in blood pressure in that region of the brain presiding over equilibrium and co-ordination. This alteration in blood pressure, in turn, acts as an irritant to the center, which manifests itself in a disturbance of the function of this part.

Moldenhauer, in considering congestive reflex head-ache, thinks it is due to a disturbance of the circulation at the base of the brain, through the medium of the ethmoidal arteries and veins. Bosworth, drawing deductions from this, thinks that nasal vertigo may be likewise explained. Similar views are held by Joal, Fränkel, Heryng, and others.

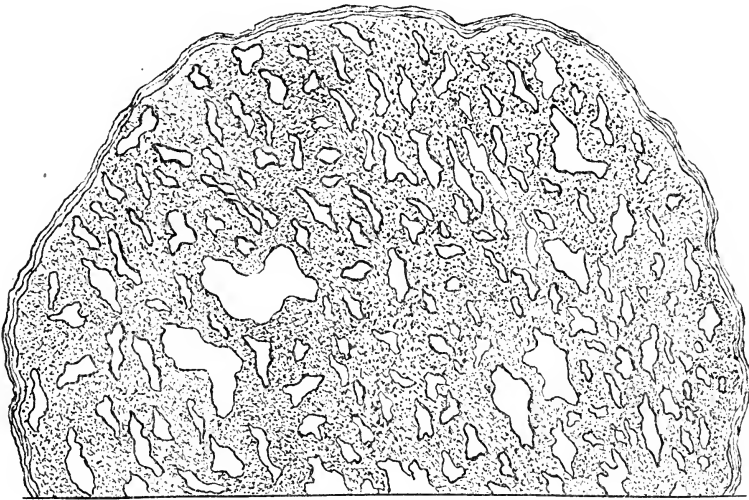
The theory that an increase in certain blood elements, as the eosinophiles, which takes place in various conditions that are often attributed to nasal reflex neuroses, has been suggested by some writers as a possible solution of the pathology of reflex neuroses of the nose. Neusser and his pupils, Weiss and Klein, have probably paid more attention to this subject than any one else, and their experiments and findings in this direction are worthy of future consideration.

BLEEDING POLYP OF THE SEPTUM (TELANGIECTOMA); REPORT OF A CASE.

BY GEO. L. RICHARDS, M.D., FALL RIVER, MASS.

Otologist and Laryngologist to the Fall River and Emergency Hospitals.

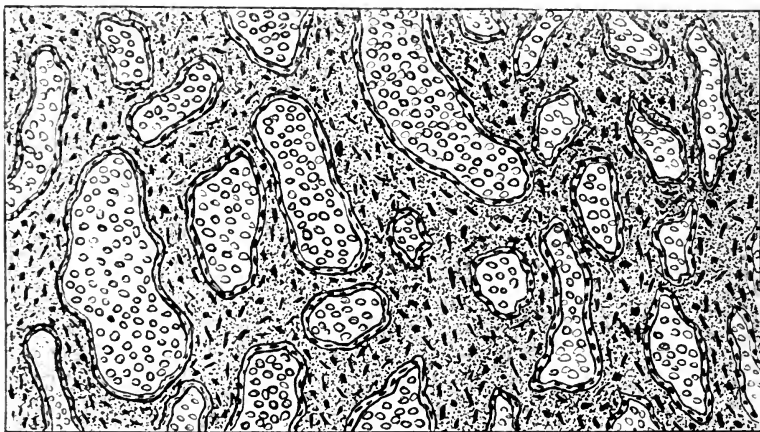
The following case is reported on account of the rarity of the affection. I have seen but two reports in recent literature, one by Dr. Cobb, of Boston, read before the Pan American Medical Congress, and the other of two cases read at the Philadelphia meeting of the American Medical Association by Dr. Pierce, of Chicago. Dr. W. Freudenthal and Dr. J. O. Roe have also reported cases.



Microscopic Section, Cavernous Angioma; low power.

W. H., male, age thirty-two, clerk, came to me August 13, 1898, with a history of hemorrhages from the right nostril covering a period of eight months. He complained of difficulty in breathing through the right nostril, and said he thought there was a polyp in it. His family physician had also told him there was a polyp in the nose. Examination showed an irregular shaped reddish blue mass about $\frac{5}{8}$ by $\frac{1}{4}$ inch in size, freely movable under the probe and attached by a very small and short pedicle to the cartilage of

the septum about two-thirds of the way back from the front and about one inch from the floor of the nose. Thinking it might trouble me by bleeding I prepared for the hemorrhage before attempting removal. I then applied the cold wire snare and slowly removed, twisting the pedicle somewhat before detaching. The bleeding was profuse and came from an area hardly larger than the head of a good - sized pin. The galvano cautery point was at once applied to the bleeding point and partially checked the hemorrhage. The forward part of the nostril was then packed with iodoform gauze strips, soaked alternately in peroxide of hydrogen and an antiseptic oil. When a number of these had been introduced the bleeding ceased. The gauze was removed two days later and no bleeding followed. Twelve days later there had been no recurrence of hemorrhage and healing had taken place over the site of removal. Since that time I have not seen him.



High power, same section, showing spaces filled with corpuscles.

Microscopic examination showed the tumor to be a cavernous angioma with but little interstitial substance. The blood spaces were filled with corpuscles and were of every size from very small to very large. The interstitial substance was connective tissue of the round celled variety for the most part, though containing some spindle cells. The epithelial cells of the surface were of the pavement celled variety in most places, yet were in places cylindrical. The majority of the blood spaces were lined with very thin endothelium and very irregular in shape. Scattered throughout the

tumor were others perfectly round and showing the structure of a vein with a minimum amount of elastic tissue. The accompanying cuts drawn from the microscopic specimen show the characteristics of the tumor. There was nothing at all sarcomatous about the tumor; it was simply a collection of various shaped and sized spaces separated from each other by a small amount of interstitial tissue, a true cavernous angioma so far as structure is concerned. To define it with a little more accuracy, considering that it is not a dilatation of capillary vessels normally existing in the locality, but a true extension of them outward, forming a new growth (an ectasis), it is probable that the term telangiectoma is the correct term to apply to it, rather than simple angioma. Dr. Pierce, in the paper already referred to, called his cases telangiectomata of the septum.

That these bleeding polypi of the septum are rare is proven by the fact that Cobb had found in 1893 but twenty-one recorded cases, and the records of the Massachusetts General Hospital showed but one case in 7,429 cases in the throat and nose department, while J. N. Mackenzie, with his large experience, had at this same date seen but one case of a similar nature.

Angioneurotic Edema of the Nose—WALTHAM—*Am. Med. Surg. Bulletin*, October 10, 1898.

This peculiar affection occurred in a young man of good health. He had attacks of eruption resembling erysipelas. The attack commenced at the bridge of the nose and extended to both cheeks. The skin was tense, very red, but no itching, pain or fever. In three or four days the eruption suddenly disappeared leaving no sign of previous inflammation. Six months later a similar attack came on. Zinc valerianate, in two to three grain doses, every four hours, relieved the patient. There has been no relapse for about three months.

[An examination of the turbinals should be made, as not infrequently an erythema of the nose is due to engorgements of the erectile tissue, and applications of the galvano-cautery act happily in such conditions. M. D. L.]

LEDERMAN.

MODERN POSSIBILITIES IN CHRONIC CATARRHAL DEAFNESS.*

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The dismal prognosis given in cases of chronic catarrhal deafness by many authorities has restrained us from placing on record some conclusions which, for the past five years, have been making themselves manifest. Even now, a paper on the subject is advanced with humility, begging that you will overlook apparently radical or dogmatic assertions, for they come at least from honest convictions.

Ancient and modern literature on this subject is well known to you all. The valuable work done by these eminent men is fully appreciated, and is being utilized in our attempt to get more favorable results in so-called hopeless cases—we say *is being utilized*, because the technique of work and treatment used are in no wise original or peculiar to ourselves. Simply a *more persistent* application of the rational methods adopted by most progressive aurists of the day.

Within the past few years much has been written in relation to operative procedures within the middle ear to relieve those cases having distorted, ankylosed or bound down ossicles; but very little has been said regarding those that might be termed “non-operative” cases of chronic catarrhal deafness.

A paper is now presented with the hope of reviving the interest in a condition so neglected, yet so common, and so worthy of our best efforts; also with the thought of bringing to your notice a sample of the results being obtained, and which I believe others will get, and are getting if they encourage their patients to submit to a complete removal of nasal causes, and persevere in proper tonic and alterative treatments to the membranes.

The term “Modern Possibilities” is made use of in the title, for it is due to recent advances in therapeutic and surgical science that old traditions are being overcome.

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Close on the discovery of the anæsthetic properties of cocaine, came the improved facility with which the nasal and post-nasal passages could be made healthy. Following along this line, it was found that acute and sub-acute cases of catarrhal deafness were very much benefited and usually promptly cured, by improving the condition of the membranes of the nose. In the more chronic cases, we were often taught that if, after inflation, the hearing were not improved, or if, after a course of treatment by generally accepted methods for six weeks, the patient showed no material benefit, it was a hopeless case and wrong to encourage him to continue further. With this point we could take issue, for in most chronic cases of catarrhal deafness, a six or eight weeks course of treatment will not, to much extent, improve their hearing power; whereas a *thorough removal* of pathological conditions within the nose and adjacent cavities, followed *persistently* from month to month, and if necessary from year to year, by proper stimulating sprays to the nasal membranes, and vapors through the Eustachian tube to the middle ear will, in a good percentage of cases, tone up the parts and bring, if not a complete cure, happy results.

Many a time we have followed the old rule, given the six weeks course of treatment, discouraged our patient, and sent adrift what, in the light of present knowledge, would be a favorable case, to become the prey of some enterprising quack.

Another tradition handed down to us is, that if we find bone conduction diminished, the prognosis is unfavorable. In not a few instances this has proved to be an unreliable rule, the neuritis clearing up promptly with the removal of tubal and tympanic trouble.

To illustrate some of the foregoing points, three decidedly chronic and unfavorable cases have been selected from our records that represent different periods in life, aged, respectively, twenty-four, forty and fifty-three, the last two surely being beyond the age in which would occur resolution of the trouble through nature's processes. A complete history covering such long courses of treatment would be too tedious to incorporate in this paper, so a brief *résumé* and some general observations will be made, taking them up in the order named.

Case I.—Miss M., aged twenty-four, came under treatment March 28, 1894, with history of much deafness in left ear for six years, and in the right three years, together with roaring and chirping sounds in the head, with no apparent change during previous ten months.

Examination showed enlarged middle turbinates, puffy membranes, granular pharynx, etc. Right drum red around edges over malleus and considerably depressed. Left drum not so red, but more opaque. Ossicles movable in each ear 50%. Air and bone conduction about equal, bone conduction slightly below normal in each ear. In the right ear she could hear numbers of two figures, spoken in conversational tone 6 inches, in whispered voice 2 inches. In left ear spoken voice 4 inches, whispered voice 0; slight, if any, improvement after inflation.

January 7, a period of nine months, during which time the operative work in the nasal passages had been completed and the parts healed, an examination showed a gain in the right ear of only 2 inches, and 6 inches in the left. She was then given *daily* treatments of camphor and iodine vapors through the Eustachian tube for five weeks, when a gain of 9 inches in the right ear was noted. This was significant, as previous attempts with bi-weekly treatments had failed to do much good.

Owing to financial reasons the patient was only seen at irregular intervals for short courses of treatment after February 15, 1895, to December 29, 1897, when she reported an almost entire absence of the noises in her head, freedom from colds and catarrhal troubles, though physical appearance remained about the same; the left ear had gained 12 inches for whispered, and 16 inches for spoken voice; the right ear 14 inches for whispered, and 24 inches for spoken voice. Time under treatment, three years and nine months.

Case II.—Prof. C. came under treatment June 4, 1895, complained of deafness of thirteen years' standing, coming on after severe exposure. Reported that for twelve years to above date hearing had remained about the same, but could be temporarily relieved by Valsalva's method of inflation.

Examination showed the common intra-nasal thickenings and post-nasal inflammations. Ear drums much depressed, dry and thin. Ossicles in right movable about 20%, in left 30% of the normal.

Right hearing distance was 0 for the whispered voice. Politzer's accumulator 20 inches. Left hearing distance 5 inches for whispered voice, accumulator 26 inches. Right ear not improved by inflation. Left ear improved 3 inches for whispered voice.

September 7, 1895, first test for hearing after nasal passages were put in shape surgically, showed no material improvement. Treatments were continued with slight exceptions twice a week until November 5, 1897, a period of two and one-third years, when examination showed right hearing distance to be 50 inches for whispered

voice, accumulator 20 inches. Left hearing distance 120 inches for whispered voice, accumulator 30 inches. A gain for whispered voice in right ear since beginning treatment June, 1895, two and one-half years, of 50 inches. In left ear 115 inches.

Case III.—Mrs. A., aged fifty-three, came under notice October 12, 1892. Complained of extreme deafness, ringing, roaring and a variety of noises, which had remained about the same for fifteen years in the right ear, but the left ear became a little better and remained so until four years previous to examination. Right drum depressed, cloudy and fibrous in appearance, with redness around edges and over malleus. Ossicles movable 20%, light spot $\frac{1}{3}$ normal size. Left drum was not so cloudy, but the malleus was prominent, light spot $\frac{1}{2}$ normal size.

Testing the ear showed the right hearing distance for numbers in spoken voice to be 4 inches. Left hearing distance 12 inches. Bone conduction in the right ear appeared to be 20 seconds, and in the left ear 15 seconds below normal. Nasal passages contained numerous thickenings with consequent post-nasal and pharyngeal inflammations. Inflation appeared to double the power of hearing in the left ear. The usual operative course in the nasal passages was gone through with until July 6, 1893, when right hearing distance for spoken voice had improved from 4 to 8 inches. Left hearing distance from 12 to 32 inches.

She then became irregular in her attendance, only taking a bi-weekly course of treatment for a month or so, when she felt her deafness increasing. The intervals between relapses became longer, until sometimes she would go for three months without treatment, and with no apparent loss in hearing.

On December 5, 1896, tests showed a gain in right ear of 32 inches, and in the left 76 inches, from three and one-half years of very unsteady treatment. An examination was made at this time for whispered voice; right ear 24, and left ear 80 inches; the nasal and post-nasal membranes were in good shape with almost an entire absence of noises within the head; another two months' treatment was given, followed by a lapse until June, 1897, when it was found that in the previous six months she had gained for the whispered voice 8 inches in the right ear, and 60 in the left. Also, since beginning of treatment, October 12, 1892, a gain for the spoken voice of right ear 44 inches, and left ear 276 inches, or 23 feet. Last October she dropped into the office to say that she could see no need for treatment as there was a steady improvement.

The choice of the three foregoing cases from many, to illustrate "Modern Possibilities in Chronic Catarrhal Deafness" was made:

First—As I said before, because they represent three distinct periods in life.

Second—Because they were each of them cases of long standing deafness, decidedly obstinate and chronic in character; others, apparently as deep-seated, having responded much more promptly.

Third—Because each one presented well-marked pathological conditions within the nose; and

Fourth—Because records show that in each case I had tried to relieve them by the usual method of inflation, vaporizing, etc., for a period of two months, without material benefit.

With the case of the young lady, particular attention is called to the improvement obtained in five weeks from daily treatment, right ear 9 to 18 inches, left ear 10 to 20 inches, and would say that I have tried this active plan in several very obstinate cases with good results. The total gain in her case was, left ear from 4 to 20 inches, right ear 10 to 30 inches. Time under treatment three and three-fourths years.

N. B.—February 1, 1898. Since writing this paper, which was read by title before the Eastern Section of this Society in Albany, January 24th, the patient presented herself again after a lapse of six months.

Careful bi-weekly treatments were given for four weeks, when examination showed a gain in the right ear of 4 inches, and in the left of 10 inches.

This was interesting, because the auscultation tube had told me at each treatment, that the vapor was entering the middle ear freely, while in the right side the membranes of the Eustachian tube were so swollen that several treatments were given before the middle ear was reached. The improvement of 4 and 10 inches was commensurate with the success of the applications, and further, that bi-weekly treatments in her case now bring greater results than could be obtained by daily treatments three years ago.

In Case II, particular note should be given to the degree of deafness, its long standing—thirteen years—and to the amount of improvement from a shorter course of treatment, two and one-third years, 50 inches in the right ear, and $9\frac{3}{4}$ feet in the left, due no doubt to the persistence and regularity with which the patient kept to the work.

In Case III, the lady had reached the age where we should be very careful in giving a favorable prognosis, but the result obtained, a gain of 44 inches in the right ear, and 23 feet in the left ear, teaches us that even those of *advanced* age are *sometimes amenable* to treatment.

Another point is nature's kindness in bringing about regenerative changes of her own accord, if thorough nasal work has been done. Since July 6, 1893, the treatments were irregular, and only just enough to restore tone to the membranes of the nose and Eustachian tubes when they became relaxed; this was necessary for a time every two or three months; latterly once in three months. Experience teaches that with regular and persistent treatment two or three times a week, our result would have been still more pleasing.

The question does not seem to be so much whether we have an atrophic or hypertrophic condition, *but did* the deafness primarily occur as a catarrhal inflammation, or is there so much fixation of the ossicles as to *preclude* a possibility of relief except through operative procedures?

If examination shows that the trouble *be* a catarrhal process, and there is a chance of stretching adhesions, absorbing inflammatory products, etc., with the patient's faithful co-operation, each year's added experience has given us *more* courage to make a favorable prognosis.

Many practitioners are opposed to the treatment of deafness in particular, and catarrhal affections in general. This influence is felt in families, and in those cases where prompt, energetic measures are *imperative*, may become pernicious. Their opposition is honest and comes from the unfavorable prognosis given by authorities for whom they have great respect. We *maintain* that the *conclusions* of these authorities *were based* on experience obtained under auspices *much less favorable* than the present: their *every effort* on the ear was hampered by recurring catarrhal inflammations which to-day we can, in a great measure, control.

Treatment of chronic catarrhal deafness may be divided into three stages: (1) The stage in which the necessary nasal operations are done; (2) the stage in which we await the result on nasal and post-nasal membranes of the operative work, relieve tubal occlusion; (3) that stage where we find that we have at last succeeded in building up the membranes so that they have more inherent power to throw off inflammations. This is a period at which, for lack of perseverance, but few cases arrive, the period attended by so many discouragements that both the physician and patient are put to the test; but it is the *only* period in which we can *satisfactorily apply treatments* to the middle ear.

In the first or second stage of treatment in these hard cases, little gain in hearing power need be expected; if some be obtained it is usually transient, though it seems best to carefully inflate and vapor-

ize the middle ear at each favorable opportunity. With that great army of chronic cases showing a lesser degree and shorter duration of deafness, correspondingly easier and quicker results will be obtained.

The tendency to gradually drop back to their old state if left to themselves, will depend upon their physical condition, climatic environment and the relation we get their membranes to bear to the normal. With moist atmosphere and sudden variation of temperature, care may be necessary, but numerous observations show that this is not a great hardship, as the relapses become less and less frequent.

As to methods and means adopted, we shall offer nothing particularly new, but would say that for reducing congestion, or restoring tone to the membranes, a light spray of iodole and ether, two grains to one ounce (see "Head-aches from Nasal Causes," by the author, *The Medical News*, July 10, 1897) sometimes applied to the nasal and post-nasal membranes, and a vapor of camphor and iodine carefully and thoroughly injected through the Eustachian tube into the middle ear appears to be very serviceable. (See "Diseases of the Ear," Dench, page 310.)

Finally, "Modern Possibilities in Chronic Catarrhal Deafness" appear much enhanced by the enlightened work being done on pathological conditions within the nose. An unfavorable result from a six or eight weeks' course of treatment is not a safe criterion for prognosis.

Nature is a prompt and ready assistant, if she be unhampered by co-existing nasal inflammations; and with practically restored normal membranes, the problem becomes one amenable to treatment.

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Nasal Catarrh and its Relation to Diseases of the Ear—W.

S. BRENHOLTZ, Lancaster—*Penn. Med. Jour.*, October, 1898.

Much harm is done by the indiscriminate use of the nasal douche. Severe forms of otitis media are the direct result of its use in some instances of hypertrophic rhinitis as pointed out by Roosa. Some authorities claim that 90 per cent of ear diseases following some nasal or post-nasal affection, a large proportion of cases afflicted with tinnitus improve after proper nasal treatment. Beverly Johnson claims that aural complications are more frequent in atrophic rhinitis than in the hypertrophic form. Attention is called to the oft repeated warning in neglected cases of adenoid vegetations as the exciting factor in aural disturbances.

LEDERMAN.

GOUTY AND RHEUMATIC AFFECTIONS OF THE EAR.

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The more or less intimate relationship existing between gout and rheumatism in this country, at least, and the conflicting theories suggestive of the etiology of the two diseases, preclude a separate consideration of each when studied as to the effects produced on the auditory apparatus. For the purpose of describing the local effects of these diseases as especially concerning the otologist, we may in general, consider the two as one affection, except in a few instances which will be discussed in their appropriate place. Therefore, to a proper appreciation of our subject it will be well to outline the changes produced by both gout and rheumatism on the various tissues of the body, reserving the pathology as regards the ear until later.

We must consider rheumatism as partaking of two forms, the acute and the chronic; the ear being occasionally involved in both varieties. In the acute form we find the joints are the parts mainly affected; there is hyperæmia and swelling of the synovial membrane and the ligamentous tissue, the fluid lubricating the joint becomes turbid, albumen and fibrin being present in increased amount. In chronic rheumatic affections involving the joints we find the synovial fluid diminished in amount, the cartilages are thickened as is also the capsule surrounding the articular surfaces, the sheaths of the tendons in the immediate vicinity of the involved joint undergo similar alterations and thus we find that movements not only of the joints but also of the neighboring muscles are restricted. In addition to this, in the form under consideration, the nerves supplying the parts undergo pathological change and consequently from the peripheral neuritis resulting, nutrition and innervation suffer and atrophy of the affected parts and especially the muscles supervene. The blood vessels also become the seat of a slowly developing sclerosis, adding to the changes already observed.

In the study of the morbid anatomy of gout we find an excess of uric acid in the parts directly involved by the disease. This extraneous substance, acting as an irritant, produces a local coagulation necrosis, with inflammation, hyperæmia, swelling of the ligamentous tissues and effusion into the joint.

Having pointed out the distinctive pathological features of each disease, we can, in a general way, speak of the relations existing between gout and rheumatism and the ear.

A study of the histological structures of the auricle and external auditory canal, reveals the presence of a large amount of fibrous tissue and cartilage, the two tissues especially susceptible to the morbid influences of the affections under consideration. The middle ear consists essentially of a cavity with two openings, the Eustachian tube anterior, and the antrum and attic posterior. Enclosed in this central cavity are the ossicles with their minute and complicated system of articulations, the stapes with the fenestrum ovale, the incus with the stapes and malleus and the malleus with the incus, membrana tympani and wall of the tympanic cavity. The mucous membrane of the middle ear being closely adherent to the bony walls, in part replaces the periostium and with its numerous folds divides the cavity into a number of secondary spaces. Concerning the inner ear, we find our subject needs consideration of the blood vessels only, the injurious effects of gout and rheumatism upon this portion of the auditory apparatus depending upon changes in the vessels and rarely affecting the delicate nerve filaments of the parts.

Although gouty and rheumatic affections of the auricle were studied many years ago, it was not until 1849 that W. Harvey, in a systematic paper, directed special attention to the morbid changes noted in the auditory apparatus resulting from these affections. In his paper he called attention to the fact that both gout and rheumatism affect the ear without any other changes in this organ being present, and also observed that the ear, already the seat of other pathological alterations, was liable to be affected in gouty subjects, thus in a way changing the character of the disease previously existing.

Accurate statistics as to the frequency with which the ear is affected are not easily obtained, the general opinion, however, being, that the internal ear and auditory nerve are very rarely affected, the tympanic cavity and membrana tympani more often than is generally supposed, while the external auditory canal and auricle will be found to be quite commonly influenced by the general affections, especially will this relationship be evident if a careful history be obtained in all ear diseases coming under our observation. Dench¹ says that gout and rheumatism exert more influence on the ear than is commonly supposed, and that it is not necessary to have constitutional evidences of the two affections, but the ear may be affected through a hereditary diathesis. The susceptibility of the ear in certain individuals, to the

injurious effects of gout and rheumatism, is explainable by the large amount of fibrous tissue composing portions of the auditory apparatus, the selective power of these diseases as has been seen, being well marked for this form of tissue, entering as it does into the composition of the larger part of the auricle and external canal and forming to a great extent the important ossicular articulations. Richey² in a paper on this subject, considered that the minute joints of the ossicles are liable to attacks of rheumatic arthritis from their exposure to atmospheric changes. That the rheumatic diathesis manifests itself in acute exacerbations as the result of sudden or prolonged alterations in the humidity of the atmosphere is well known, and no reasons exist when the disease is apparently limited to the joints of the ossicles, why it should not show itself here as it does in other articular surfaces of the body.

From the otologist's point of view, we are concerned with gout and rheumatism as being either hereditary or acquired. The acquired form of the disease as seen in the usual way and due to causes originating in the affected individual, manifests itself in the aural apparatus in various ways, being either clearly defined and then readily recognized as we will see later on, or may simply show itself as altering the character of some diseased process already present in the ear. The obstinate character of many ear troubles, especially eczema of the external auditory canal, and serous middle-ear catarrh is due in a considerable proportion of cases to the gouty or rheumatic diathesis. Hereditary gout as observed in this location may appear a short time after birth or later in life, the first rarely, but during adult life much more commonly. D'Aguanno³ reported three cases of tardy hereditary gout of the ear in which deafness developed as soon as the patients arrived at the age of puberty. No other causes for the affection were found and the nose and naso-pharynx presented no deviation from the normal. The father had been affected with the gouty diathesis for years and as the result of D'Aguanno's study of these and similar cases, he concluded that among the ordinary forms of hereditary gout of the ear, there is a late variety which usually manifests itself at the age of from fifteen to twenty years.

Aural involvement from both affections occurs most often in advanced life and in males; this is especially so as regards the serous form of otitis, while the chronic sclerotic variety of middle-ear disease dependent upon rheumatic diathesis is not seen at any definite age, but occurs most frequently in the female sex and is associated with muscular rheumatism. Acute myringitis, depending upon the acute form of rheumatism and gout, occurs at any time, age and sex

apparently bearing no relation to this complication. Destructive processes of the middle and internal ear occur most frequently in males and at an advanced period of life, the patient suffering from the rheumatic or gouty diathesis a number of years before the ear becomes involved. General evidences of rheumatism may not be present, the auditory apparatus being affected primarily and on the subsidence of the aural inflammation, the nature of the disease will be seen by rheumatism of one or more large joints of the body. In gouty patients we usually find well marked evidences of the disease elsewhere before the ear becomes affected, although the hereditary form may not show itself anywhere but in the ear for a considerable period. In the large proportion of patients suffering from well marked gout, liability to occasional sub-acute dermatoses of the meatus is observed.

Both gouty and rheumatic affections, objectively and subjectively differ considerably when various parts of the auditory apparatus are affected: it will be well to consider in detail the different portions of the ear especially subject to the effects of these diatheses.

The auricle is very commonly the seat of deposits of nodular urates in gouty subjects, these crystals or amorphous masses are generally situated beneath the skin of the helix and do little harm, occasionally from pressure, inflammation is produced, the cause being recognized by the presence of a foreign body beneath the cutaneous surface. In both gout and rheumatism of long standing, the external auditory canal is frequently affected with a localized, sub-acute form of eczema, mild in character, but very resistant to treatment and leading to changes in the cutaneous lining. In many cases of eczema in this locality, treatment as usually applied is of no avail and the case only improves after constitutional measures directed to the primary disease have been instituted. The eczematous patch presents nothing of diagnostic nature; a history of the case as regards the presence of gout or rheumatism and the results of treatment alone allowing a proper diagnosis to be made. Resulting from denudation of the cutaneous lining of the canal and the increased moisture present, there is a considerable tendency to the development of vegetable parasites on the eczematous area.

Toynbee⁴ referred osteomata of the canal to the gouty-rheumatic diathesis and although exostoses occur in this locality quite frequently in individuals of this class, yet no direct causal relation has been fully established. From the deposit of urates beneath the skin of the meatus a furuncle forms, while in severe attacks of rheumatism, a general condition of furunculosis of both external auditory canals

is occasionally seen. The membrana tympani is rarely affected without the middle ear at the same time being involved, but occasionally during an acute, violent attack of gout, transitory pain of the ear will be complained of, lasting for a few hours and rapidly passing away. If the membrana tympani be examined intense congestion of the manubrial plexus will be seen, the middle ear apparently not being involved, but when it is affected, the membrana tympani also participates in the morbid process. Both rheumatism and gout, but especially the former, produce their marked effects on the tissues of the tympanic cavity; these changes are varied, but in general may be divided into two main divisions, first, an acute and destructive process and second a chronic and insidious affection.

Acute rheumatoid otitis occurs during an attack of acute rheumatism, intense pain is complained of in the affected ear, paroxysmal in nature and affecting the entire side of the head, tinnitus slight at first, increasing in intensity until the patient is almost distracted with the sounds in his head and when the pain subsides there is a feeling of numbness of the affected ear and of the same side of the head. On examination of the middle ear under good illumination, the drum membrane will be seen to be intensely red and differing from the color usually observed in acute myringitis, being of the shade known as flamingo. Should the case now obtain relief, the affection rapidly subsides and the ear may speedily become normal or a moderate amount of deafness last for a few weeks. Uncontrolled, the affection increases in intensity, pus is developed and necrosis of the bone may result, the mastoid possibly becoming involved. This violent, acute form of rheumatic inflammation may lead to entire destruction of the ossicles and adjacent bone.

Again, we find the acute form to vary in a most striking manner in different individuals, being in no way affected by the intensity of the disease elsewhere, although should a number of joints be inflamed at the same time, the tendency to ear involvement is decidedly increased. In other cases it may manifest itself by redness of the drum head, moderate degree of deafness and a feeling of stuffiness in the ears, pain and tinnitus being entirely absent, this condition remains for a few days, the usual treatment being of no avail and then disappears without apparent cause, only to return when another rheumatic attack is imminent. A third form is characterized by intense pain only, the middle ear on inspection apparently being normal, while the tympanic membrane will give no evidence of the presence of disease of the parts, impairment of hearing and in fact all the symptoms of acute otitis except the pain are absent. This

may last for an indefinite time and relief will not be obtained until the rheumatic condition is ascertained and proper general anti-rheumatic remedies employed, for local treatment seems useless. As the result of these acute processes in the middle ear, marked alterations in the functions of the parts will result, but they differ in no way from those observed after non-rheumatic inflammations and need not concern us here.

Slowly progressing changes in the tympanic cavity occur both from gout and rheumatism and are independent of the acute affections just described, these changes usually develop early in an acute exacerbation of long standing rheumatism, the fibrous tissue being primarily involved and finally the nervous tissues participate in the pathological process. We usually find two distinct chronic affections involving the middle ear in which the gouty-rheumatic diathesis exerts a great amount of influence as a causative factor, the most common of these is chronic sclerosis of the drum cavity, the fibrous tissue being especially involved as we have seen. Previous to the sclerotic changes becoming characteristic, we find an initial semi-acute form of inflammation present; this occurs during an attack of the general disease and continues in the interval, the *membrana tympani* is neither normal nor red in color, while other symptoms are absent until the ossicular articulations become ankylosed and marked fibroid changes render the function of the parts less and less acute until deafness becomes almost, if not quite complete. This form of middle ear sclerosis differs only in its etiology, from that due to other causes, but it should be remembered that as a result of gout and rheumatism, the latter especially, we find the brunt of the disease is borne by the joints of the ossicles and, therefore, serious damage to the hearing will eventually result.

The other form of otitis in which these general affections exert a distinct influence, is that characterized by a watery, serous discharge from the middle ear. Pus is never present and the affection is not always confined to the middle, but frequently invades the external ear. Sexton⁵ says that the serous form of otitis media is found nearly always in rheumatic or gouty subjects. The progress of the disease is slow, months and years passing before cure is complete and relapses are frequent, depending upon the presence or absence of the constitutional disorder.

The delicate structures of the labyrinth and cochlea do not apparently participate in the morbid process, except when the middle ear and adjoining parts undergo extensive necrosis, the result of a severe attack of rheumatism. As an indirect internal ear involvement, how-

ever, we occasionally find changes in the vestibule and cochlea, resulting from artero-sclerosis of the minute vessels ramifying through these regions. As the result of long continued rheumatism in advanced life, there is a considerable degree of degeneration of the arterial walls throughout more or less of the entire arterial system, the peripheral vessels supplying special organs such as the one under consideration, from their small calibre and delicacy being less resistant to these degenerative processes. In the internal ear these changes are occasionally manifested, the structures composing the arterial walls becoming degenerated and rigid from deposits of lime salts. From the diminished resistance of the diseased vessels to an increased blood pressure, rupture occurs and the ordinary symptom-complex of labyrinthine hemorrhage is produced. The patient complains of irregular subjective forms of tinnitus, with impairment of hearing and vertigo, varying with the amount of destruction in the internal ear. When the vessel wall ruptures these symptoms appear very rapidly, but may rarely develop in an insidious manner, several months elapsing before becoming well defined and in this case the blood is not poured out through a rupture of the arterial wall, but escapes from capillary oozing.

Rheumatic paralysis of the auditory nerve has been described by McBride⁶ as occurring during the course of acute rheumatism; deafness is marked and bone conduction is diminished or lost, but vertigo does not always occur. The affection is but temporary and as the general disorder subsides, the aural symptoms gradually disappear, a slight impairment of hearing alone remaining.

The diagnosis of these changes in the auditory apparatus is readily made if attention be directed to the etiological influences of the gouty-rheumatic diathesis in all stubborn cases of the various forms of ear affections. The prognosis will, of course, depend upon the original cause of the ear affection, in general being good in both gout and rheumatism and depending upon the promptness with which general treatment is instituted. Local treatment, except in acute inflammations is of little value, general anti-rheumatic medication alone being of service.

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SUBACUTE DIFFUSE EXTERNAL OTITIS.

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Subacute diffuse external otitis, as the name indicates, involves the major portion of the external auditory canal and is characterized by infiltration and desquamation of the epithelial lining; running a prolonged course, but not at any time presenting an acute character and differing from chronic otitis, inasmuch as the inflammatory process is more active and the duration of less extent. This affection is usually observed when both dermal surface and periosteum are involved, the several tissue layers becoming affected at, or near the same time and as a general rule it originates in the inner portion of the canal.

Traumatism plays an important part in the etiology, it being frequently due to the insertion of hair pins or the finger into the ear, but may also result from animal or vegetable organisms, either macro-or-microscopic. Again, the affection may be due to excessive glandular activity and in a number of cases, some degree of subacute inflammation results from the long continued presence of an inspissated mass of cerumen. Constitutional conditions as the exanthemata may be factors in the etiology and frequently the affection results as a consequence of the diminished resistance of the tissues, due to vasomotor paresis, tropho-neurosis, etc. The most frequent causes, however, are the rheumatic and lithemic diatheses, probably 60 per cent of all cases presenting the symptom-complex incident to this affection, give other and more marked evidences of an excess of uric acid. The affection may be primary or secondary, the latter subsequent to serous or suppurative middle-ear diseases, the irritating discharge from the middle ear producing the changes in the external canal.

The following case illustrates the condition: A. B., male, aged thirty-five years. Was seen March 18, 1897, complaining of slight tickling in the right canal, which he was temporarily able to relieve by scratching the parts with his finger and a match stick; hearing was unaffected and at irregular intervals there would be sharp, shooting pain lasting for a few seconds. Examination revealed the presence of a small amount of cerumen, the canal walls and membrana tympani apparently being normal. One week later

the case was again seen with the history that the symptoms had not improved and that there was some impairment of hearing. The canal was slightly reddened and there was thickening of the dermoid lining and drum-head, with a moderate degree of epithelial desquamation, most marked at the junction of the cartilaginous with the bony portion.

This gradually increased in intensity until April 1 when the canal contained a small amount of moist epithelial debris, the affection reaching the membrana tympani by gradual extension; the drum was macerated from fluid exudation, white in color and a portion of the anterior inferior segment was extremely thin, the outer layer destroyed and the two inner layers alone remaining. On the same date the muscular and mucous membrane layers became necrosed and a perforation resulted as large as the segment of the drum. The left ear was normal, there was no vertigo, tinnitus or constitutional symptoms and there had not been any previous trouble with the ears; the middle ear not being involved at any time during the course of the affection. April 4. Hearing slightly impaired, but gradually growing worse, all other symptoms moderated and desquamation has ceased. The normal mucous membrane of the middle ear is plainly visible through the perforation, the periphery of the drum and especially the manubrial plexus is congested and the necrotic area over the anterior inferior segment is becoming circumscribed. The affection progressed favorably, with semiacute exacerbations, until April 24 when all symptoms had disappeared, except slight pruritus and the hearing was again normal as tested by the telephone. The drum was thickened, but not retracted, somewhat opaque and there was a cicatricial depression at the site of the previous perforation.

The symptoms vary, depending upon the degree of irritation and the extent of the inflammatory reaction. When the otitis is dependent upon middle-ear disease, the symptoms are generally moderate in severity, while in rare instances when due to constitutional causes, subjective symptoms may be absent during the entire course of the affection, the changes in the canal being discovered accidentally. The local symptoms vary from a moderate degree of pruritus to severe pain, tinnitus and impaired hearing, the latter depending upon involvement of the drum-head and obstruction of the canal. The first sign attracting the attention of the patient, is a slight itching, this is usually increased by the introduction of foreign bodies to allay the pruritus, then follows the discharge of a few flakes of epithelium and blood-stained serum, which increases

in amount and often becomes sero-purulent, depending upon secondary infection from the superficial tissues exfoliating and leaving the canal wall excoriated. The serous transudate moistens the epithelium and causes it to increase in volume, filling the canal and producing pressure absorption of the soft tissues. While in other cases there is little or no exudation and the inflammatory activity is directed towards epithelial proliferation, the pavement cells being thrown off rapidly, forming a mass in the deeper portion of the canal. Stenosis results from hypertrophic changes in the basement membrane, this, however, seldom involves the entire canal, but is distributed over various areas and when marked, the patient in addition to the other symptoms, complains of subjective auditory sensations, autophony, especially being most distressing.

The general symptoms are not prominent unless the affection is severe, when there may be a slight rise of temperature in the initial stage and disappearing when desquamation begins. Reflex symptoms are occasionally observed, head-ache and cough being the most frequent, while there may also be severe pain over the branches of the fifth nerve. As a result of the extension of the morbid process, changes may take place in the middle and internal ear; there may be congestion of the mucous membrane of the tympanic cavity and in very severe cases the increased blood pressure and excessive exudation may produce serious labyrinthine changes with consequent vertigo, marked impairment of hearing and tinnitus. When from pre-existing middle-ear disease or faulty anatomical development the Rivinian segment is imperfectly closed, the inflammation is apt to extend by continuity and otitis media result, while suppuration of the tympanic cavity may also occur when the inflammation involves the membrana tympani and produces perforation. Pus is rarely found in the canal, except as an accidental infection, usually as the result of imperfect antiseptic precautions, but occasionally the disease assumes a severe form and sepsis results with the formation of a localized slough. Involvement of the membrana tympani occurs in about 20 per cent of all cases and greatly increases the liability to impairment of hearing. When the inflammation extends to the drum-head the appearance varies, depending upon the degree of inflammatory reaction and amount of exudation, it may be saturated with effusion, bulging externally and appearing to fuse with the external canal wall at its superior and posterior edges, or there may be congestion varying in degree and extent; again the membrane may only lose its lustre and become dull or opaque.

The principal affections to be differentiated are the parasitic and desquamative varieties, eczema and seborrhea. The latter is characterized by the localization of the affection to the cartilaginous portion of the canal, the presence of small, thin, yellow crusts, which are readily detached, the oily appearance of the surface and the underlying skin is red in color but not moist. In eczema the crusts are larger, adhere firmly and are composed of desquamated epithelium moistened with serum and agglutinated into masses. These dry and form thick, irregularly shaped, yellowish-brown crusts which involve the entire canal and even the tympanic membrane. They are removed with difficulty and underneath each crust is a red, moist area which dries slowly and becomes covered with a film of thin serous transudation, the true skin being thickened from infiltration of the deeper layers. Desquamative otitis is recognized by the absence of marked inflammatory reaction and the presence of a compact white, epithelial mass often filling the deeper portion of the canal. The walls are moist and the superficial epithelium is easily wiped off with a probe. The parasitic form is similar to the subacute variety, both in regard to its course and objective symptoms. The canal and drum may be covered entirely or in isolated patches, with a white or yellowish-white deposit, closely adherent to the underlying skin, and when removed the surface is moist and denuded. The deposit macroscopically resembles to a most striking extent a mass of moist blotting paper and occasionally may be removed in large sheets, rarely an entire cast of the canal may be obtained, resembling the finger of a glove, but when examined under the microscope the nature of the affection becomes at once apparent.

As a result of neglect, the affection may assume a chronic course, especially when the individual is broken down physically; the subjective symptoms practically disappear, but local infiltration remains for a long time. In some cases, the chronic course may be prognosticated when the subacute affection occurs in individuals the subject of a marked morbid diathesis, when the affection comes on very slowly and is accompanied with little or no subjective symptoms. Exostoses may follow excessive desquamation and infiltration, and as a result of involvement of the drum we may have a permanent perforation or it will be covered with a movable cicatrix.

The prognosis is favorable as regards the termination of the affection within a comparatively short time, but when it assumes a chronic form it may persist for several years, in some cases with the production of stenosis or strictures from membranous or

osseous septa. The outcome will also depend upon the damage to the membrana tympani, and in addition to the sequelæ already mentioned, we are apt to have retraction and thickening of the drum with deposit of lime salts. In making a prognosis it is important to consider not only the course of the affection, but to ascertain the probable result as regards the functional capacity of the auditory apparatus.

Treatment should be both local and general. The removal of any dyscrasia that may be considered as a cause is most important, and until the general condition of the patient is satisfactory, little can be done locally to restore the canal to its normal condition. The salicylates are necessary in the majority of cases, the affection as previously mentioned often being a local manifestation of the rheumatic or lithemic diatheses, and appropriate medication directed to this end is the proper course to pursue. Dry heat may be used in the early stages before maceration occurs, being applied through a thin metallic tube in the same manner as a dentist uses hot air to a tooth cavity. To remove the secretions the canal is wiped out with a tuft of sterile cotton moistened with peroxide of hydrogen and powder, oil, ointment, or whatever seems best suited to the individual, are applied. The most satisfactory results in my hands, however, have been obtained by cleansing the canal as indicated above, then applying an ointment composed of one grain of the yellow oxide of mercury to the drachm of lanoline, this being repeated every other day. Antiseptic powders may be used if carefully applied, but they are not as valuable as ointments. Boric acid alone or in alcoholic solution may be used, or salicylate of chinoline, one part to sixteen of the former, may be tried. Salicylic acid has been recommended by Dunn in the proportion of one drachm to the ounce of collodion. It is painted over the parts and is somewhat painful for a few moments, but stops pruritus and forms an efficient protective coating.

3554 North Broad Street.

Chorea Minor due to a Foreign Body in the Ear—MAX. BREITUNG
—*Gazette Hebdomadaire de Med. et de Chir.*, May, 1898.

A girl of thirteen years suffering from chorea minor was found to have a small piece of lead resting upon the membrana tympani, the removal of which was followed by a complete cure of the chorea.

SCHEPPEGRELL.

THE MODERN THERAPY OF SUPPURATIVE OTITIS MEDIA.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

In the consideration of a purulent discharge from the middle-ear cavity, two systems of treatment have long contended for supremacy; one the so-called "dry treatment,"—the other the irrigation and syringing of the affected parts with various antiseptic solutions.

Each method of treatment has its advantages and disadvantages, and in their application the pathological status of the involved area, the character of the discharge and the size of the perforation in the membrana tympani should all be taken as factors in deciding which system to employ.

Where the discharge is copious and the pus thick and ropy, the application of the syringe with a gentle current of a mild, warm antiseptic fluid is advocated to clear the canal to the surface of the membrana tympani. In but few conditions of purulent otitis, however, have I found the use of fluids injected into the external canal for the purpose of clearing it of pus as satisfactory as the similar method of dry cleansing.

The technique in surgery which has found general favor of late is the "dry dressing." Its advocates and enthusiasts claim for it a more rapid healing and repair, a more natural covering and less irritation of the injured surface and less danger from infection of the surrounding areas. The wet dressing always produces a sodden and infiltrated surface, and as this in the ear is generally applied to a mucous membrane, it frequently unintentionally produces the very condition which it is our purpose to subdue.

In the therapy of middle-ear suppuration we aim to remove pus and other fluids from the infected cavity, and this purpose is certainly thwarted by the liberal use of the syringe and other forms of irrigating the auditory canal and middle ear. The small tuft of sterilized cotton on the tip of the probe or cotton carrier, gently applied as a mop to absorb the mucous or purulent excretions from the ear will, in the majority of cases, cleanse the canal to the tympanic cavity, if need be, more effectively than will a large current of antiseptic fluid. Where a large perforation of the membrana tympani exists, as is usual in the majority of cases of chronic suppurative otitis media, there is an additional danger in the free use of the

syringe of forcing some of the fluid into contact with the remote and healthy areas of the tympanic cavity, and thus carrying some of the purulent discharge and fresh infection to another point. It may, perhaps, not be unreasonable to conjecture that frequent mastoid infection has resulted from the freedom with which the otologist handles the syringe in the treatment of suppurative otitis media.

A factor of great value in the consideration of the "dry treatment" is its efficiency in preventing infiltration and softening of the mucous membrane of the tympanic cavity, a condition which is invariably produced by repeated applications of watery solutions to a pathologic mucous membrane.

The mucous membrane of the tympanic cavity during a suppurative otitis is constantly bathed by the purulent secretion resulting in this sodden condition of the membrane, and this is only accentuated by the further addition of aqueous medications. It is this very stimulation and irritation of the mucous membrane by the fluids with which it is pathologically brought in contact, that causes granulation and polypus formation.

In the application of the dry system of treatment I have frequently noted that the tendency to the formation of granulation tissue has been reduced to a minimum.

In emphasizing this form of dry dressing, I have taken into consideration only the simple forms of suppurative otitis media. Of course, where a suppuration of long standing has resulted in necrosis, a considerable destruction of the soft tissues of the middle-ear cavity or involvement of the mastoid area, more radical therapeutic and especially surgical measures must be adopted.

In cleansing the purulent discharge from the middle ear I first mop the canal as thoroughly and as clean as possible. If but a small perforation exists and the cotton tuft cannot find its way into the tympanic cavity, there is always a possibility of retention of the purulent matter, and a tendency to chronic suppuration. Where no pain or discomfort exists I frequently use the Eustachian catheter in conjunction with a Globe nebulizer with iodine, 3 grs., carbolic acid, 4 grs., and benzoinol, 1 oz., and by steady inflation frequently succeed in forcing the residue of the purulent secretion through the small orifice of the membrana tympani into the auditory canal. This has a two-fold advantage of forcibly ejecting the purulent contents of the middle-ear cavity and also of applying an antiseptic to the delicate mucous membrane without the ill effect of infiltration of same.

As an additional means of evacuating the contents of the tympanic cavity, especially where but little congestion is apparent, I occasionally apply a Siegle speculum and by suction draw the muco-purulent fluid even through a small perforation. The more promptly the tympanic cavity is evacuated of infecting fluids and the greater care exercised in the minute cleansing of the parts, the more speedily will a cure be obtained.

After each cleansing a non-irritating but efficient impalpable antiseptic powder should be insufflated in the auditory canal. For many years boracic acid has been the panacea for nearly all the ills the ear is heir to. Boracic acid, however, is but a mild antiseptic at best, and in the experience of every worker it has been frequently found inert and impotent. Next in importance to boracic acid, iodoform has long held rank as a dry dressing in aural surgery. Its objectionable odor to both the operator and patient and its stimulation of granulation tissues when in contact with mucous surfaces detracts from its value as a powder dressing.

As otologists, we are constantly on the alert for an antiseptic in powder form, available as a dressing in suppurative and inflammatory conditions of the middle ear, more potent than boracic acid and less disagreeable and less irritating when in constant contact with these tissues than iodoform, exhibiting no tendency to cake or clog in the auditory canal and offering but a minimum of toxic absorption.

When nosophen was brought to the notice of the profession as a superior antiseptic and as a dressing fulfilling the majority of the requirements of the ideal powder in otology, I did not hesitate to give it a thorough trial, and in the use of this preparation in this class of cases during the past year I am pleased to say that the results have been thoroughly satisfactory, and that in both private and clinical work I have substituted nosophen for boracic acid.

Where large perforations of the membrana tympani exist in conjunction with suppurative otitis, I have successfully used the dry gauze tampon, as advocated by Dr. Alice Ewing.* The gauze is lightly introduced, filling the external auditory canal, its distal end producing mild pressure on the mucous surface of the tympanic cavity. This dressing is renewed as frequently as the profusion of the purulent discharge demands.

The gauze may be either the plain sterilized or the nosophen gauze which works admirably in conjunction with the nosophen powder dressing. The double cyanide gauze, still the favorite with English surgeons, has also been satisfactorily used in this manner.

* Gauze Packing for Suppurating Ears; *The Laryngoscope*, Vol. IV, No. 6, p. 357.

The only fluid medications which I have used liberally and freely in the treatment of suppurative otitis media are the saturated solution of boracic acid in absolute alcohol and hydrozone. The boracic acid alcohol offers a satisfactory means of reducing small granulations occurring in the course of chronic middle-ear suppuration. Hydrozone is a superior and concentrated product of peroxide of hydrogen, which is of inestimable value in seeking out small pus pockets which are not within reach of the mop or syringe. In the application of both the alcohol and hydrozone I use the medicine dropper in preference to the syringe, and where it is intended that the fluid should penetrate the tympanic cavity, the desired point may be reached by shifting the head of the patient.

In conclusion I desire to emphasize the necessity of careful cleansing and thorough antisepsis of the naso-pharynx in the treatment of suppurative otitis media.

Endo-Cranial Complications of Purulent Otitis Media—GRADENIGO—*Revue Int. de Rhin., Etc.*, July, 1898.

A rapid diagnosis in these cases is the principal element of success. The following symptoms demand special attention: optic neuritis, cephalgia, slowing of pulse, rigidity of neck, difficulty of deglutition, vertigo and nausea, and fever. The patellar and superficial reflexes are usually diminished in meningitis and exaggerated in cerebral abscess.

SCHEPPEGRELL.

Threadworms in the Ear—KOEDEL, Stuttgart—*Am. Med. Surg. Bulletin*, October 10, 1898.

A young female child, one and one-fourth years old, after a violent attack of retching, choking and sneezing, passed a threadworm more than a finger in length, the worm making its appearance at the external auditory canal. The child had suffered for five days from a suppurative otitis media as a sequel to an attack of pneumonia. The worm must have passed through a perforation in the membrana tympani to appear in the external-auditory meatus. Before the worm appeared the child had severe colic. In eight days the drum had healed.

LEDERMAN.

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EDITORIAL.

THE LEGISLATIVE REGULATION OF THE SALE OF COCAINE.

The abuse of cocaine has reached such proportions that special laws regulating its sale have been considered in several States and already enacted in Louisiana and Texas. The penalty for the infringement of these laws is a fine of from \$10 to \$100, and in the case of New Orleans also imprisonment.

The need of such laws and their enforcement is becoming more and more pronounced. There is no drug which has been on the market for such a comparatively short time in which the abuses have become so formidable. While cocaine is one of our most useful agents for local anesthesia, its abuse for other purposes is becoming so extensive that many physicians have questioned whether it has really not effected more evil than good, and even

the most conservative are realizing its danger. That physicians in general do not understand the possibilities of this drug for evil is evidenced by the fact that it forms a part of innumerable prescriptions for coryza, hay fever and other conditions, in which the benefit is transient, or only apparent, in fact in which the effects may really be injurious, and the habit easily established. In a recent foreign periodical (*Clinica Moderna*), a snuff containing 25%(!) of cocaine hydrochlorate is deliberately recommended for the use of patients suffering from chronic hypertrophic rhinitis. Were this an exception, it would not require special comment, but it is becoming entirely too frequent, and is laying the foundation of an evil which is becoming more and more difficult to combat.

It is not generally known that several of the patent medicines, which are sold in the form of snuff for "colds," hay fever, etc., owe their transient pleasant effects to the cocaine which they contain. While the quantity is usually not sufficiently large to give rise to direct toxic effects, its continued use is undoubtedly injurious to the nasal cavities, and it is not improbable that the cocaine habit may also be established in this manner. The sale of such drugs should also be regulated by the laws referring to cocaine in general.

Attention has recently been called to a special development of the cocaine habit (Scheppegrell, *Medical News*, October 1, 1898), which is on the increase in the Southern States, especially among the negro population. The cocaine is used as a kind of snuff for its exhilarating effect, and is dispensed in small packages which are sold by druggists at from 5 to 10 cents each. That the evil has reached considerable proportions is demonstrated by the fact that some druggists were in the habit of selling more than 100 packages of cocaine per day. The records of the criminal courts bear evidence of the fact that the evil results are far more striking and rapid than from the morphine habit.

It is through the agency of this practice and its pernicious effects that public attention has been called to this evil, which has resulted in the enactment of laws in Louisiana and Texas. This example should be followed in each State, as it is far better to anticipate an evil than to correct it after its development.

Physicians are frequently to blame for the development of the cocaine habit. In view of the many dangers which attend its use, this drug should never be placed in the hands of the patient. Few druggists hesitate to refill the physician's prescription, and often when it is too late, the physician may see the evil result of placing such a drug in the hands of the patient.

SCHEPPEGRELL.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, October 26, 1898.

Dr. Jonathan Wright, Chairman.

Dr. Thos. J. Harris, Secretary.

An Efficient Laryngeal Forceps.

Dr. Robert C. Myles exhibited a laryngeal forceps which had served him well in the removal of subglottic growths, especially papilloma. It does not interfere at all with the field of vision.

Angioma of the Septum.

Dr. Myles referred to a patient under his care, fifty years of age, who presented a fungating mass on the septum that had existed about three months. It seemed to consist of both venous and arterial branches and bled constantly. There was a solid attachment to the anterior part of the septum.

Dr. Wolf Freudenthal said that he had had a case of bleeding polypus of the nasal septum—a condition which seemed to him like that described by Dr. Myles. Usually it had its origin in traumatism. This growth bled freely on being removed with the snare. There had been no recurrence although the operation was done about five years ago.

The Chairman said that he had had half a dozen or more cases of angioma of the septum, and it seemed to him the most common of the benign neoplasms of the septum.

Syphilitic Exostosis of the Superior Maxilla.

Dr. Wendell C. Phillips presented a young man who had been brought to him the previous evening by Dr. Fenn, of New York. The patient had contracted specific disease about two years ago, and had gone through a short course of treatment only. About this time he began to have a good deal of pain in various parts of the face, and subsequently the teeth were tender and became loosened. The pain was most intense in the fifth nerve, and was much worse at night. He came to Dr. Fenn about six months ago, and that gentleman, being a dentist as well as a physician, could probably describe the condition better than he.

Dr. Fenn, being invited to speak, said that there seemed to be absorption of the alveolus and the roots of the teeth; at the same time they came away without any peridental attachment. There was no pus or other discharge.

Dr. Phillips, continuing, said that examination showed apparently a large exostosis of the maxillary bone, which would lead one to think there was antrum disease. However, there had been no symptoms of this. On transillumination the light was very bright on both sides, and of equal intensity, with the exception of a small dark spot on the cheek just about opposite this growth. There was no difference in the reflected light on the two sides. Under mixed treatment the improvement had been marked and rapid.

A Case of Chronic Urticaria of the Larynx.

Dr. W. Freudenthal reported a case of this kind occurring in a man fifty-nine years old. He said that only a very few cases had been reported of urticaria of this region. He had never seen a case of chronic urticaria of these parts before. The case had come under his observation in 1891. There was then a diffused redness of the epiglottis. He was treated both locally and generally for about eight months without benefit, and was finally cured during a sojourn in the country. Five years later there was another attack. At this time he mentioned that he was subject to general urticaria. In March, 1898, he had a third attack. The affected area was found to be insensitive even to very strong local applications. This man had his first attack of urticaria in 1856, and was treated for it in Budapest. In 1889, while living on a rather generous diet, the urticaria returned, and was not relieved by the treatment which had proved successful in previous attacks. A cure occurred spontaneously while he was living rather frugally in a boarding house. The patient's complaint of a foreign body in the larynx was apparently nothing more than itching, and the localized edema the counterpart of the wheal so commonly observed with urticaria of the skin.

Laryngeal Carcinoma.

Dr. Frank A. Bottome presented a woman, fifty years of age, who, one year ago, began to have some difficulty in swallowing. No stricture of the esophagus was found. Last July she had an attack of what was supposed to be la grippe, and following this there were some hoarseness and pain. He had then examined the larynx and found a small tumor, cauliflower in appearance, and attached entirely to the left ventricular band. Examination by Dr. Hodenpyl showed the growth to be a typical epithelioma. There was a strong family

history of cancer. Dr. McBurney saw the case and advised against operation because he believed the carcinoma had originated in the esophagus. As to the advisability of removing cancer of the larynx, Dr. McBurney said that he was very much against these operations because he thought the patient was very much worse than before the operation. So much had been said of late about cancer of the larynx that this opinion from such an eminent general surgeon seemed to be of special interest.

Dr. Francis J. Quinlan said that some years ago he had seen a case in which the diagnosis of tuberculous laryngitis had been made by two experts and confirmed by a microscopist. The subject was a woman about twenty-two years old, and there were absolutely no symptoms either subjective or objective. Several sections were made of the growth, and the microscopist then found it to be a true carcinoma. On operating, an enormous growth was revealed which had destroyed a large part of the posterior laryngeal wall.

Dr. Phillips thought that there could be only one opinion about these cases, *i. e.*, that they should be considered inoperable unless seen sufficiently early to make partial resection of the larynx feasible. Certainly the case just presented must be classed as inoperable. Such growths are bound to recur and cause as great, if not greater, suffering than before. About one year ago he had presented to this section a clergyman upon whom he had operated for the removal of what was considered to be a papilloma. There was no involvement except a portion of the vocal cords. It was reported to be a case of true epithelioma. The man recovered well from the operation, and could to-day speak distinctly and with a fairly loud voice.

Dr. Myles said that he believed the case just examined to be one of esophageal growth. He had seen a number of these—all in women. The growth must have existed more than a few months. He was a strong advocate of the operative treatment, but the trouble was that the methods of making a sufficiently early diagnosis were still very imperfect. The early microscopical appearance is not sufficiently distinctive to give much aid.

Dr. Freudenthal said that he had under treatment a man, about seventy five years of age, who complained of intense pain on swallowing. A large probe could be passed into the esophagus. There were no glandular swellings. The larynx showed what appeared to be an infiltration between the arytenoids. The diagnosis was probable carcinoma of the larynx.

Dr. Quinlan remarked that in the past three years he had seen two cases, and the wives of both had died of cancer of the breast.

Dr. M. D. Lederman said that the question arose as to whether the infection had not passed so far before operation that there could be no reasonable hope of relief. If the growth were sufficiently large to be visible it was not improbable that the infection had already gone too far; hence, even though the growth were small and unilateral, it was doubtful if an operation was advisable.

The Chairman said that the general consensus of opinion at the present time seemed to be to always operate in cancer of the larynx if the diagnosis could be made early. In his opinion these cases showed the most brilliant results from operation for cancer that could be found anywhere. Medical art was intended to save life, and it was not a question of whether or not life was worth living after extirpation of the larynx. That question should be decided by the patient after the facts had been explained to him.

The Gleason Operation for Deflected Septum, Illustrated by a Model.

Dr. M. D. Lederman said that the descriptions of the operations by Watson and Gleason were published at about the same time, although in different journals. Dr. Watson made it a point to make a beveled incision through the greatest angle of deflection, in an oblique direction, without passing through the mucous membrane. When there was a vertical deflection, however, it was cut, and if very prominent an elliptical piece was taken out. The next step was to force over the piece, at the same time avoiding perforation of the mucous membrane. Pins are then passed through the outside of the nose and left for from two to six weeks. Gleason cuts below the angle of deflection with a saw, then turns horizontally and carries an incision entirely across, completing it as a U-shaped incision. If the septum is not sufficiently resilient, he dislocates or fractures the other portion. He claims that fully 80 per cent recover with excellent results, although in many cases he uses no splint and does the operation under cocaine. He uses the Harrison Allen tube.

Dr. Bottome asked how long it took to make the incision through the septum. He had found this part very tedious.

Dr. Myles said that he had done the operation about a dozen times, and it had proved exceedingly simple and satisfactory thus far. It had always seemed to him possible that if the incision were carried too high there might be too much interference with the blood supply and that sloughing would result in consequence. A peculiar feature of the operation was that the protrusions of mucous membrane are absorbed in the course of several months. The operation could be easily done in two minutes. He had also done the

Roberts operation, but had found difficulty in making the septum remain in its new and improved position.

Dr. Emil Mayer said that Watson used an incision which was entirely different from the Asch operation. Dr. Asch had always insisted upon making the incision entirely through, and certainly he did not use pins.

Dr. Newcomb referred to a device suggested by Dr. Eskar to avoid perforation of the mucous membrane on the sound side. The mucous membrane on this side is cocaineized, and then with a fine syringe some sterilized water is injected directly under the mucosa. This causes a ballooning of the mucosa on the side opposite that on which the operation is to be done, thus making the operation much easier.

True Papilloma of the Nasal Septum.

Dr. Beaman Douglass read a paper on this subject, and illustrated it with some photo-micrographs of both true and false papilloma of the nasal septum. The patient forming the subject of the paper was a woman, fifty-four years of age. The examination showed a warty growth on the mucous membrane on the right side of the nasal septum and behind the tubercle of the septum. It partially filled the inferior meatus. There was no ulceration. The growth was removed with a snare, and the wound healed rapidly. One year had now elapsed and the result was entirely satisfactory. Her general health had been good. Sections of the growth seemed to show an outer epithelial layer and an inner interstitial layer. The former was frequently divided by branches which did not unite. The epithelial layer was composed of squamous epithelium. No glands were found, and the connective tissue was very scanty in proportion to the epithelium. The tumor was therefore a true papilloma, and not like the polyp of Hoppman. The latter is more frequently found on the turbinated bodies where ordinary hypertrophies are found.

Dr. Jonathan Wright said that seven or eight years ago when Hoppman first published his descriptions they caused much confusion, for very few in this country had seen papilloma of the septum. There are some growths, however, that start as simple hypertrophies of the inferior turbinated bodies and after a while assume an epithelial character. It is very difficult to distinguish them microscopically from true papilloma, owing to the shrinking of the epithelium on each side of the fingers. In Zuckerkandl's work would be found a picture of a papilloma of the inferior turbinated bone. It was such a beautiful specimen that it was not mutilated for microscopical examination; if it had been, it would probably have been found to be a localized hypertrophy.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

To Stop Nose-Bleed—A. C. SMITH—*Buffalo Med. Jour.*, October, 1898.

This simple suggestion is made to arrest an attack of epistaxis: Grasp the nose between the thumb and forefinger and press backwards against the alveolar border of the maxilla and downward against the teeth. This compresses the lateralis nasi and septal arteries. Satisfactory results also follow the use of tannin and acetanilid.

LEDERMAN.

The Abuse of the Nasal Douche—LICHTWITZ—*Am. Med. Surg. Bulletin*, October 25, 1898.

In the majority of cases hypersecretion is due to other causes than inflammation of the nasal mucous membrane, as involvement of the sinuses, deviation of the septum, new growths, etc. In such cases the douche does harm by seriously injuring the delicate epithelium. Head-aches are sometimes caused by fluid entering the sinuses, and otitis media produced by solutions finding entrance through the Eustachian tube.

LEDERMAN.

Restoration of a Deflected Nasal Septum—B. DOUGLAS—*N. Y. Med. Journ.*, August 6, 1898.

A description of various septal deformities and of the method of incising a deflected septum and restoring it to the median position. A non-perforated splint is preferred to retain the position of the parts.

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

The Internal Secretion of the Tonsils—G. MASSINI—*Gazette Hebdomadaire de Méd. et de Chir.*, August, 1898.

The subcutaneous administration to guinea pigs of the extract of the tonsils of a dog was found to have a noticeable effect in increasing the arterial pressure in a manner somewhat similar to that following the use of the suprarenal extract. Chronically inflamed tonsils were found to have no such effect. The author believes that the function of the tonsil is to furnish an internal secretion, capable of causing increase of arterial pressure.

[Whether Massini's views are correct or otherwise, there is no doubt but that in accordance with the general rule of design in nature, the tonsils have some well defined function in the human body. That these glands are so often removed without any injurious effect being noted, is probably due to the fact that some other organ of the body, perhaps the suprarenal capsule or the spleen, may assume vicariously the normal function of the tonsil.]

SCHEPPEGRELL.

Tuberculosis of the Parotid Gland—PARENT—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 8, 1898.

Tuberculous tumors of the parotid may be either confluent or disseminated. The bacillus may find its way to the gland either by ascending through Steno's duct or by way of the blood and lymph vessels, the points of entrance being carious teeth, the mucous membrane of the gums and the tonsils.

The clinical course of this affection is very obscure, and the symptoms vague; the etiology shows nothing special, and the diagnosis is difficult, if not sometimes impossible. Histologic and bacteriologic examinations can alone solve the question. The treatment is surgical; the extirpation of the tumor and removal of the glands have given excellent results.

SCHEPPEGRELL.

III. ACCESSORY SINUSES.

The Treatment of Sinusitis (with Exception of Maxillary)—

MOURE—*Revue Hebdomadaire de Laryngologie*, March, 1898.

Independent of the particular cavity affected, sinusitis presents the following forms:

1. Mucous or muco-purulent discharge without complication.
2. A chronic suppurative form with the formation of fungous neoplasms.
3. A fistulous form with abscess and bony lesions.

In ethmoidal sinusitis the mucous form is generally intermittent, and the treatment is the same as that for the *Schneiderian* membrane in general. In the *latent* and *fungous* forms, the removal of the neoplasm and the free opening of the cells and cleansing washes are usually sufficient. In the osseous fistular form complete ablation of the diseased area is indicated, and sometimes external intervention by way of the orbit is also required.

In frontal sinusitis, the mucous form requires the same treatment as the milder cases of ethmoiditis. Cocainization of the orifice of the naso-frontal canal is usually indicated. In the suppurative and latent forms, in simple cases, the removal of the fungosities and antiseptic washes are sufficient; the more developed cases require catheterization through the natural canal, intranasal opening of the sinus, or treatment by external methods. Catheterization is sometimes easy on account of a patulous canal, but is generally difficult and may be dangerous.

The intranasal opening suggested by Dieffenbach and Schoeffer is recognized as dangerous and is generally condemned. External opening enables us to obtain a rapid and definite cure and avoid other complications. An external opening is made in the canal, anfractuosités carefully curetted and a solution of 1 to 10 per cent of chloridé of zinc then applied to the whole cavity. Drainage is then established through the naso-frontal canal and the wound closed. The drainage tube is removed after five or six days. This method of treatment is superior to all others, but it does not always prevent relapses, as reinfection may develop from the ethmoidal or sphenoidal cells, as the various cavities form a kind of labyrinth in which it is very difficult to limit the seat of the lesion.

In the osseous fistular form, the last described treatment is required, but should be more radical in character. In the sphenoidal sinus, we also have the same forms of lesion. The mucous form is frequently mistaken for naso-pharyngeal catarrh. In the more serious cases, opening is required, but the electric drill and trephine are dangerous. The ablation of the middle turbinal, either in part or as a whole, facilitates the operation, which consists of perforating the anterior wall by means of a stillette or curette.

In the combined form of sinusitis, which is not unfrequently met with, a combined method of treatment is required.

SCHEPPEGRELL.

IV. LARYNX AND TRACHEA.

Spasm of the Glottis and Sudden Death in Whooping Cough—

CHAUMIER—*Tours*, April, 1898.

Cases of sudden death in whooping cough are rare, the author having been able to collect only fifty cases in literature. In the treatment, in addition to flagellations, friction and artificial respiration, the author advises traction of the tongue. This should be continued for at least ten to forty-five minutes.

[In critical cases, a rapid tracheotomy is to be advised, or preferably intubation, if the necessary instruments are at hand.]

SCHEPPEGRELL.

Edema Laryngis of the Climacteric—UCHERMANN—*Med. Review of Reviews*, October 25, 1898.

This chronic form of edema occurred in a woman who was undergoing the change of life. She was under observation for six months. The edema was strictly unilateral and confined to the left aryepiglottic fold. The disease was invariably worse at the menstrual period, and slowly receded. There was no inflammatory changes, nor was there edema in any other part of the body. The author believes that the case was an instance of Quincke's disease, or acute circumscribed angio-neurotic edema.

LEDERMAN.

Urticaria involving the Larynx and causing Asphyxia—F. WOOD-BURY—*Phil. Polyclinic*, July 2, 1898.

A well-built muscular man of forty-five years quickly developed difficult and hurried breathing, finally becoming purple in the face and falling down in a condition of asphyxia. He revived after an hypodermic injection of strichnia nitrate, followed by morphine and atropine.

The patient had previously suffered from urticaria, and at the time of the attack the characteristic lesions were found, justifying the belief that the swelling of the mucous membrane of the larynx was of this character.

LEDERMAN.

V. EAR.

Exostosis of External Auditory Canal—M. A. GOLDSTEIN—*Journal of Laryngology*, July, 1898.

The interesting features presented in the reported case were the unusually large size of the growth, the difficulties encountered in the diagnosis and the methods employed for its removal.

The growth completely filled the lumen of the canal, appearing within one-half inch of the meatus; point of fixation of the tumor was traced to the posterior wall of the auditory canal.



Etiology obscure; supposed to have been caused by frequent scratching of a pruritic area in the canal with matches and toothpicks.

The tumor was removed by means of a shallow oval curette placed over the convex surface of the tumor and the application of gentle, firm leverage, resulting in the fracture of the small pedicles by which the mass was attached.

The membrana tympani was intact; the two small pedicles by which the tumor was attached were discernable on the posterior wall of the canal. Canal was restored in a few weeks to normal condition.

The exostosis measured one and a half centimeters in long diameter and one centimeter in the short diameter. After comparison with similar cases, previously reported, where the size of the tumor and the character of the attachment had been indicated, the author finds that this is the largest exostosis thus far observed in the auditory canal, where a distinct pedicle has been found and the bony mass removed in its entirety.

A consideration of the etiology, pathology and classification of exostoses accompanies the article.

GOLDSTEIN.

Sudden Deafness, with Report of Case—T. J. HERRON—*Memphis Med. Monthly*, August, 1898.

The patient suffered from an acute otitis media. There was sudden deafness followed by complete aphonia. The neurotic disturbances in this case were marked, but the author believes that the diagnosis of hysteria which had been made was at fault, and that it was a case of meningitis. The case is still under treatment.

SCHEPPEGRELL.

Some Things the General Practitioner Should and Should Not Do in the Treatment of the Ear—ADA HOWARD-AUDENRIED, Philadelphia—*Pa. Med. Jour.*, October 7, 1898.

To cleanse the ear the author has found agreeable results from one-half to one per cent solution of formaldehyde. In chronic cases this douche is followed by an insufflation of a powder composed of alum fifteen grains and boric acid one ounce, or acetanilid to replace the alum. The formaldehyde replaces peroxide of hydrogen, except in accumulated secretion and debris.

The author claims that mastoiditis can be absorbed by painting the nostrils with tincture of iodine, applying wet antiseptic dressings (for a week or ten days at times) and maintaining free drainage from the canal. No cases were lost while applying this treatment, though some severe cases were observed.

[The abstractor does not agree with the iodine application, as it produces a dermatitis in a number of cases which interferes with pressure diagnosis. M. D. L.]

Furuncle is treated by applications of pure ichthyol, and douches of hot formaldehyde solution. For eczema of the canal with formation of crusts peroxide of hydrogen is employed, with the yellow oxide of mercury ointment.

Tinnitus may be relieved by freezing the skin over the mastoid by a spray of chloride of ethyl. In all cases of tinnitus attention should be paid to the nose and throat.

LEDERMAN.

Cholesteatoma; Cerebral Abscess; Death—THOMAS AND LARTAIL—*Rev. Hebdomadaire de Laryngologie, Etc.*, February, 1898.

The patient was seventeen years of age and had suffered from the ears since infancy. Eight days before applying, he had suffered from a complicated otitis of the left side; there was fever,

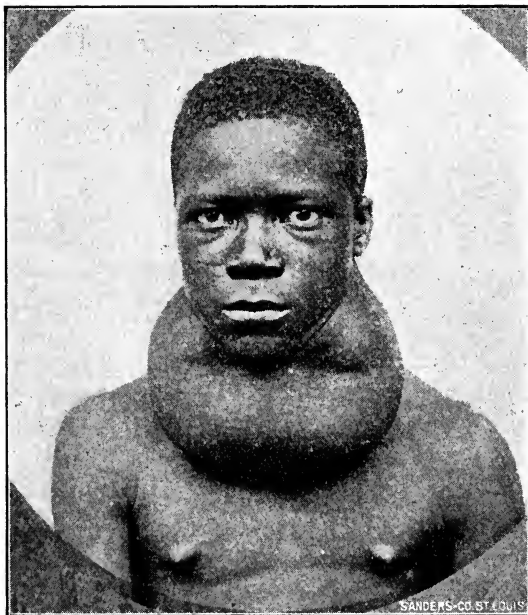
stiffness of the neck, and frontal and left cephalgia, but nothing was referred to the mastoid process. In the upper part of the tympanum a small mass of granulation tissue was seen, which was removed under cocaine. The following day facial paralysis developed and a diagnosis of cerebral abscess was made.

Six days later the central part of the apophysis was opened; two cholesteatomata were removed, one from the aditus and the other from Shrapnell's cavity. The cranial cavity was opened, but the dura mater was found healthy. Eight days later a second operation was performed, and a third eighteen days later, each more extensive but without finding pus. The signs of encephalic compression continued, and the patient died suddenly, probably from a rupture of the abscess into the ventricle. No autopsy.

SCHEPPEGRELL.

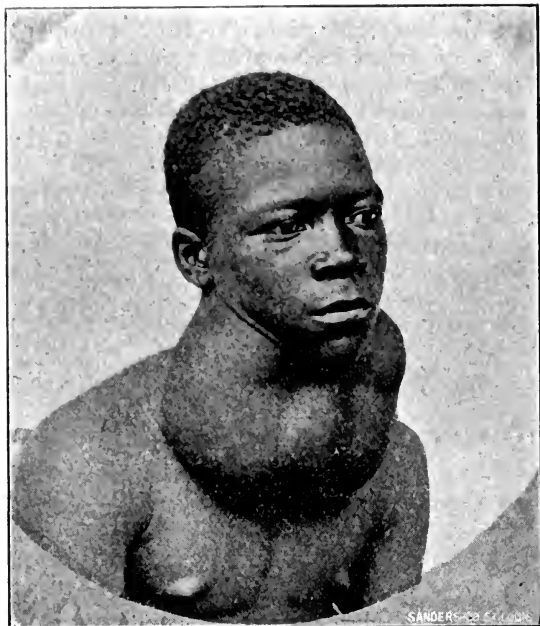
VI. DIPHTHERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

A Remarkable Case of Goitre—J. W. MILLER—*Memphis Medical Monthly*, August, 1898.



A case of highly developed hypertrophy of the thyroid gland in a negro, the voice and respiration being unaffected.

SCHEPPEGRELL.



Prof. Behring's Patent on Diphtheria Antitoxin—B. T. WHITMORE—*N. Y. Med. Journ.*, July 30, 1898.

A remonstrance against the granting of a patent by the United States to Prof. Behring on the process of manufacturing diphtheria antitoxin. SCHEPPEGRELL.

VII. INSTRUMENTS AND THERAPY.

The Treatment of Dysphagia in Laryngeal Tuberculosis—E. S. YONGE—*The Med. Times et Register*, October 8, 1898.

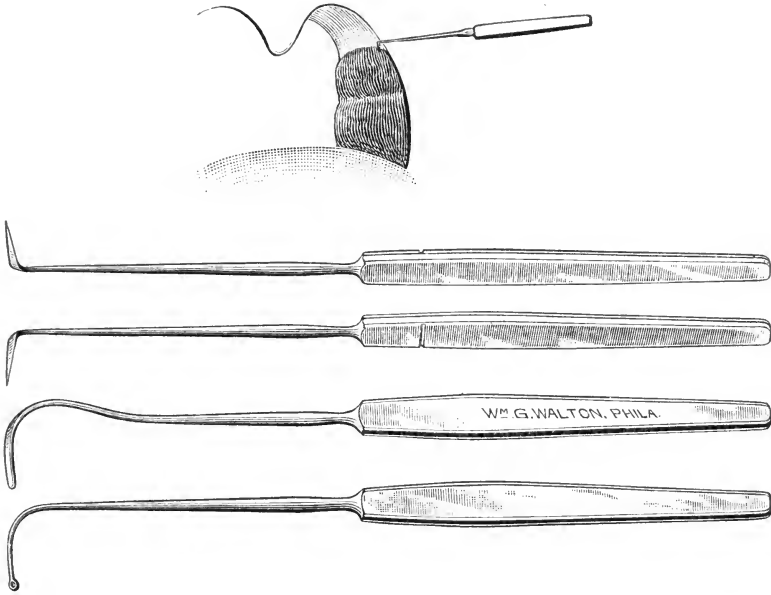
The treatment of this distressing symptom is divided into two parts—that by drugs and that by other methods. He takes a five per cent solution of cocaine as a standard and compares other medication to it. In the presence of ulceration, cocaine, antipyrin, eucaïne, orthoform, carbolic acid, guaiacol, ice, morphia (with or without iodoform) and paramonochlorphenol are available. When loss of tissue is absent, cocaine, antipyrin, eucaïne, carbolic acid and ice are only of service. Antipyrin acts longer than cocaine, and a combination of the two is an excellent analgesic. Iced solutions of cocaine (five per cent) act as a double strength solution. Complete relief is obtained on a cleansed laryngeal ulcer when orthoform is employed. Paramonochlorphenol in glycerine is as serviceable, but contra-indicated when edema is present. Surgical treatment is also mentioned.

LEDERMAN.

Some New Instruments with Indications for their Use—G. H.

MAKUEN—*Philadelphia Polyclinic*, July 23, 1898.

A description of four instruments, illustrated below, which the author has found convenient and effective in various pathologic conditions of the tonsils and tonsillar folds. LEDERMAN.

**Further Observations on Cimicifuga as a Remedy for Tinnitus**

Aurium—MENDEL—*Journal des Practiciens*, July 16, 1898.

In patients in which 15 to 20 drops of *cimicifuga racemosa* had been prescribed for tinnitus aurium, there was benefit in a fair proportion of the cases. When effective, it is very rapid in its action, arresting the tinnitus for the time being in at least two or three days. SCHEPPEGRELL.

Sulpho-Ricinata of Phenol in Tuberculosis of the Larynx—

THEODOR HERZOG—*New England Med. Monthly*, October, 1898.

Good results are reported from the use of this remedy in the treatment of ulcers and infiltrations. In three cases in which the vocal cords were the seat of tuberculous infiltration brilliant results were obtained in four weeks. All the pathological changes had disappeared and the voice became clear and loud.

This remedy stimulates the absorption of tubercular infiltration and its products. Surgical and other treatment should be combined. LEDERMAN.





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